

**Washington
Department of Corrections
2009
Sustainability
Progress Report**



Sustainability Mission Statement

“As a steward of public resources, the Department of Corrections is committed to work for sustainable, safe communities. The Department will evaluate the long-term impacts of its construction and operations, decisions on the environment, community, and economy of the state, and strive to choose those actions with the greatest long-term benefits.”

The Department’s sustainability goals are to:

1. Reduce dependence on non-renewable energy and fuel sources
2. Reduce potable water use
3. Reduce waste
4. Reduce use of toxic materials
5. Increase the sustainability of facilities
6. Increase the Department’s commitment to and employee awareness of sustainability

Sustainability is a balance of three dimensions:

- Environmental Protection
- Economic Growth
- Social Development

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EXECUTIVE SUMMARY

This is the sixth year of the Washington Department of Corrections (WDOC) sustainability efforts, as required under Executive Orders (EO) 02-03 and 05-01 and 04-01 and Revised Code of Washington (RCW) 39.35D. Data is collected each Fiscal Year (FY), a period that runs from July 1, to June 30. Summarized progress at the 15 WDOC Prisons toward the sustainability goals include:

Energy

Goal: Reduce dependence on non-renewable energy and fuel sources (EO 05-01)

Energy-related changes include:

- 6.1 percent increase in overall energy consumption
- 4.5 percent increase in energy consumption normalized to per offender per day equivalent
- 5.7 percent decrease in energy consumption normalized to a per square-foot metric

Progress in reducing the prisons vehicle fuel consumption was outstanding. The goal required by EO 05-01 was a 20 percent reduction in vehicle fuel consumption by September 2009 from the 2004 baseline year. The prisons achieved a 24 percent reduction in vehicle fuel consumption by the end of June 2009.

The additional goal to achieve a 5 percent reduction within the one-year period of FY09 was also an outstanding success.

- Combined, the 15 prison facilities achieved a 26 percent reduction in vehicle fuel consumption within a challenging one-year period.

Potable Water

Goal: Reduce Potable Water use by 20 percent from Baseline Level of 2004 (WDOC Sustainability Plan)

- 1.2 percent overall increase in potable water use
- .07 percent change in potable water consumed per offender per day.

Toxic Materials

Goal: Reduce use of Persistent Toxic Chemicals (EO 04-01)

- Significant reductions in number of chemical products managed at each facility
- All but one facility maintains a “small quantity generator” status by generating less than 220 pounds of hazardous waste per month

Waste Reduction

Goal: Reduce solid and food waste by 35% by 2009. (WDOC Sustainability Plan)

- 8.6 percent reduction in solid waste generation
- 23 percent reduction in disposed tonnage

Paper Use

Reduce Office Paper Use by 30% by 2009. (EO 05-01)

- 6.4 percent reduction in paper use

Increase Sustainability of Facilities (WDOC Sustainability Plan Goal)

Although the primary goal of the Department is safety – for the community and for those housed and working within the facilities, sustainability has become progressively more integrated into WDOC operations.

The Department continues to be a national and world leader in Sustainable Corrections Facilities.

- The Department's commitment to build and retrofit structures to meet Leadership in Energy and Environmental Design (LEED) ® standards has enabled WDOC to reap the benefits of reduced energy and resource consumption.
- Attention to resource consumption data revealed failures in systems and the need for repairs, resulting in more efficient resource conservations and targeted efforts.
- Aggressive waste management programs have saved tens of thousands of dollars by the diversion of recyclable and compostable waste from the landfills.

As currently defined by executive order, sustainability efforts have focused on the environment and natural resource use. However, sustainability is defined as a three-legged stool, with societal and economic needs alongside environmental ones, to support the whole.

The Department continues to gain broader national and world attention as a leader in the social aspects of sustainability

through demonstrating leadership by establishing and embracing innovative programs to include the "Green Prisons Project" with the Evergreen State College, Pet Partnership programs, and extensive re-entry programs and training opportunities.

Increasing the Department's commitment to and employee awareness of sustainability (WDOC Sustainability Plan Goal)

Accurate data collection is a large and complicated task. Over the past six years, WDOC has continued to improve and refine data gathering mechanisms to ensure high quality data to base decisions and actions.

Collection and monitoring of resource consumption data has provided the tools and information to target problem areas and develop innovative solutions to further sustainability goals.

The Department is proud of this past year's successes in building new partnerships, fostering collaborative processes and creating new opportunities to implement and advance sustainability within prison operations and the Department's culture.

This report spotlights the fifteen prisons facilities where most of the effort in data collection has focused over the past five years. This is the logical place to focus attention given that this segment represents the Department's largest consumer of resources.

The following report summarizes the progress of the Department's sustainability efforts for FY09.

Table 1 – Presents the Prisons Name, Acronym, Location, and Average Number of Offenders in FY09

Facility	Acronym	Location	Average Number of Offenders in FY09
Airway Heights Corrections Center	AHCC	Airway Heights, Spokane County	2,161
Ahtanum View Corrections Center	AVCC	Yakima, Yakima County	120
Cedar Creek Corrections Center	CCCC	Little Rock, Thurston County	396
Clallam Bay Corrections Center	CBCC	Clallam Bay, Clallam County	867
Coyote Ridge Corrections Center	CRCC	Connell, Franklin County	616
Larch Corrections Center	LCC	Yacolt, Clark County	388
McNeil Island Corrections Center	MICC	McNeil Island, Pierce County	1,284
Mission Creek Corrections Center for Women (opened April 2005)	MCCCW	Belfair, Mason County	147
Monroe Correctional Complex	MCC	Monroe, Snohomish County	2,526
Olympic Corrections Center	OCC	Forks, Jefferson County	362
Pine Lodge Corrections Center for Women	PLCCW	Medical Lake, Spokane County	322
Stafford Creek Corrections Center	SCCC	Aberdeen, Grays Harbor County	1,955
Washington Corrections Center	WCC	Shelton, Mason County	1,853
Washington Corrections Center for Women	WCCW	Gig Harbor, Pierce County	860
Washington State Penitentiary	WSP	Walla Walla, Walla Walla County	2,065
Total Average Number of Offenders in WDOC Facilities FY09			15,920

**Population data from WDOC Research and Planning, July 2009*

Sustainability Highlights – Facility Successes in FY09

(All on a per offender basis with the baseline of FY04, except energy, with a baseline of FY03, and additional per square foot basis)

Reductions in Energy Consumption per square foot:

AVCC	6.6%
CRCC	52.3%
LCC	4.5%
MICC	16.2%
OCC	2.8%
PLCCW	9.5%
SCCC	12.7%
WCC	7.3%
WCCW	31.1%
WSP	7%

Reduction in Energy use per offender:

AVCC	4.4%
LCC	6.0%
MCCCW	13.9%
MICC	21.7%
OCC	2.4%
SCCC	9.8%
WCC	15.7%
WCCW	12%

Reduced Potable Water Use:

AHCC	1.1%
CCCC	4.6%
CRCC	20.4%
MICC	25.2%
WCCW	17%
WSP	10.4%

Reduced Waste Water Discharge:

AHCC	10.9%
AVCC	50.1%
LCC	13.5%
MICC	53.6%
OCC	20.5%
SCC	3.5%
WCCW	31.6%

Solid Waste Reduction:

AHCC	27.9%
CBCC	49%
CCCC	42.9%
LCC	77.6%
MCC	8.6%
MICC	34.9%
OCC	91%
SCCC	50.5%
WCC	11.5%
WSP	2.7%

Paper Use Reductions from Baseline:

AVCC	21%
CCCC	28%
CRCC	5%
LCC	16%
MCC	7%
MICC	13%
SCCC	6%
WCC	18%
WCCW	10%

Vehicle fuel use reduced:

AVCC	38%
CBCC	30.9%
CCCC	47.2%
CRCC	66.6%
LCC	19.5%
MCC	29.2%
MICC	25.9%
OCC	16.3%
PLCCW	7.4%
SCCC	31.0%
WCC	21.7%
WCCW	42.0%
WSP	4.9%

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DEPARTMENT BACKGROUND

The Department is the third largest agency in Washington State with a \$1.8 billion biennial operating budget. The Department is responsible for managing all adult prison facilities and supervising adult offenders residing in our communities.

The Department is required to provide health care, programming, treatment, correctional work programs, housing, and nutrition services for incarcerated offenders.

The prisons, work release facilities, and community field offices are located throughout the state. Each plays a vital role in supporting successful re-entry of the many offenders who will release from confinement and those residing in the community under the Department's jurisdiction.

The Department operates 15 prisons. Eight of these facilities have a range of custody levels including maximum, close, and medium security. In addition, the Department operates seven minimum-security facilities including three forestry camps and a licensed assisted

living facility. These minimum-security facilities house offenders scheduled for release to the community within 48 months.

The age of the facilities range from the 120 year-old Washington State Penitentiary to new LEED® certified construction, such as the 2008 prison expansion at Coyote Ridge Corrections Center located in Connell.

The Department's headquarters office and Correctional Industries (CI) headquarters are located in Tumwater.

The Department focused most of the data collection over the past five years on the 15 prison facilities. This is logical given this segment represents the Department's largest consumer of resources. The second most significant resource consumer is CI.

The Department's goal is to reduce the environmental, economic, and human cost of prisons by training staff and offenders in sustainable practices and to manage facilities in a way that aligns with these values.

New Initiatives for FY09

Weather Normalization for WDOC Energy Data

In the FY08 Report, WDOC introduced weather normalization into the analysis of facility energy data. This analysis revealed that local weather conditions could play a significant role in rising energy consumption, even with conservation efforts.

This year the Department refined the technique used to apply the weather normalization method to the data analysis. Weather normalization allows the correction of, or adjustment to, energy-consumption data to factor out variations of outside air temperature.

The following graphs illustrate this analysis for two comparable facilities – one on the west side of the state (Monroe Correctional Complex - MCC) and one on the east side (Airway Heights Corrections Center - AHCC). See Appendix C for an expanded analysis covering additional facilities.

The weather normalization standard used is a “heating-degree day” calculation. Heating degree-days (HDD), measures how much (in degrees), and for how long (in days), outside air temperature was *lower* than a specific “*base temperature*” (65°F). This report applies the HDD formulas for calculations of the energy consumption required to heat buildings.

A review of weather station data at MCC and AHCC reveals local conditions could play a significant role in rising energy consumption. The data for MCC reveals that the average temperature over the last five years (2004-2009) has gone down 7.8 percent. This trend resulted in an increase in HDD of 29.0 percent. An increase in HDD is proportional to an

increase in energy required to keep the affected buildings at a comfortable interior temperature.

Discussion of weather-normalized data in part of this report is limited to heating energy and uses the standard British Thermal Unit (BTU) designation. All other reference to energy data in this report will use Kilowatt Hour (KWH).

Speculation has focused on problems with boiler maintenance, system leaks, building weatherization, and efficiencies. The use of weather data for MCC allows a more complete and informed picture of the energy consumption data that has been trending upward at about 5 percent per year.

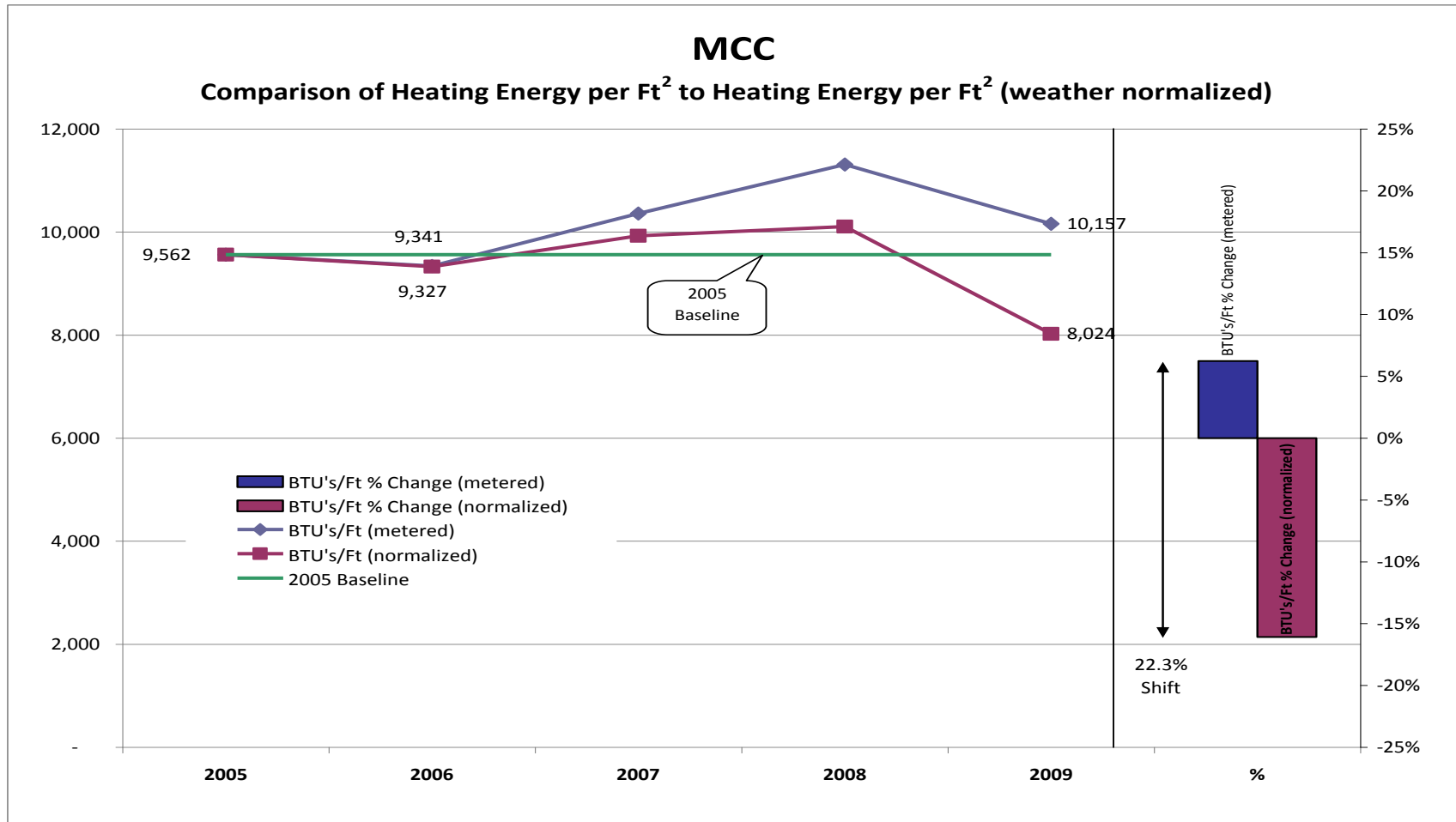
Cold winters at AHCC resulted in a 6.1 percent increase in metered data from 2005. However when normalized for the adverse weather conditions the increase is only 3.2 percent. Repairs in the domestic heating system hot water lines also contributed to the reductions achieved.

The insertion of weather normalization into the energy data gives a different picture of the facility energy usage and allows WDOC to better direct trouble-shooting efforts.

A description of the methodology used for this analysis can be found in the US Department of Energy report “Measuring Energy Efficiency In The United States’ Economy: A Beginning.”¹

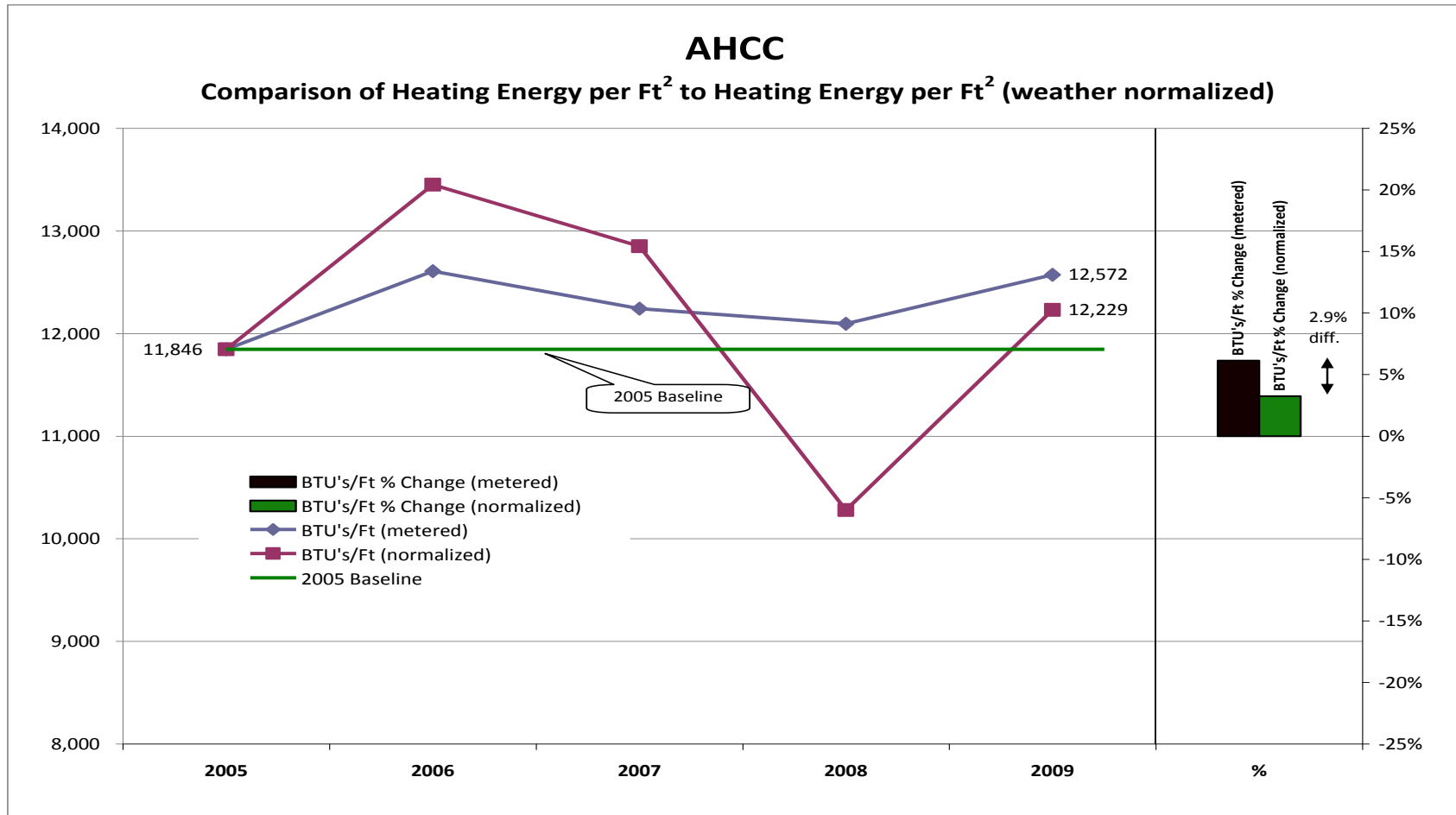
¹ Energy Information Administration, “Measuring Energy Efficiency In the United States’ Economy: A Beginning,” Office of Energy Markets and End Use, U.S. Department of Energy, Washington, DC, October 1995, Appendix A Methodology.

Figure 1 – Illustrates the Ability of the MCC Steam Plant to Maintain a Comfortable Temperature for Staff and Offenders



Note: Weather data indicates that the outside temperature has been getting cooler for the last four years and that the range of temperature differences each day have increased, but with only a minor increase in amount of energy consumed. Therefore, MCC has reduced the amount of energy needed to heat a square foot of floor space.

Figure 2 – Illustrates a Comparable Analysis for Eastern Washington (Airway Heights Corrections Center).



Note: The percent difference between energy consumption normalized to account for weather influence versus metered data represents a 2.9 percent reduction. This graph illustrates success in reducing energy consumption in relation to the conditioning required by the ambient temperatures.

Solid Waste Reduction Pilot Initiatives

Packaging Elimination Efforts

The Department's effort to reduce the generation of solid waste at prisons is a high priority.

In FY09, the Department spent \$933,878 on waste disposal from the 15 prison facilities. While this figure represents a 10 percent cost reduction from 2008 waste disposal figures, waste reduction remains a high priority.

This year WDOC evaluated the packaging associated with the products the facilities consume. This represents a significant waste volume and a contaminant to potentially divertible food waste.

The Department took action to reduce both the impact of packaging waste on regional landfills and the impact to staff and facility resources necessary to manage this waste stream properly.

Actions taken include:

- Reviewing purchasing contracts and practices to identify opportunities to reduce packaging
- Launching a pilot study at WCC, to minimize all non-compostable disposable items in the food service area

Audits of the WCC food service area revealed that the overwhelming part of the garbage was compostable. Most of the remaining waste was packaging. As a result,

WCC is piloting a program to eliminate this waste by changing product purchases in their food service area.



Food waste sorted from trays at prison facility. Photo by B. Drummond

Sustainable Prisons Project

In August of 2008, the Department established an interagency agreement with the Evergreen State College to create the Green Prisons Project. This collaboration intended to bring science to an underserved population and further the sustainability efforts of prisons by bringing topic experts together with both staff members and offender population.

Currently four facilities are participating in the Green Prisons Project. During this first year of activity, some exciting partnerships have formed at CCCC and SCCC, while lecture series and organic gardening technique demonstrations are occurring at all four participating facilities, including MICC and WCCW.

Help for Endangered Frogs

Cedar Creek Correctional Center (CCCC) is home to an unprecedented collaboration with the Washington Department of Fish and Wildlife (WDFW) and The Evergreen State College (TESC).

The offenders at CCCC, with the support of facility staff and a TESC student, are successfully rearing the endangered Oregon Spotted Frog under the direction of a WDFW senior research scientist. Since the arrival of the frog eggs in April 2009, the offender team has been responsible for the frog feeding; water cleaning and monitoring; documentation of growth; installation and maintenance of new equipment; and construction of



Offender holding endangered Oregon Spotted frog reared at CCCC.
Photo by B. Drummond

larger habitats as needed. The Department of Fish & Wildlife released the frogs in the fall of 2009 into the protected wetlands of Fort Lewis, furthering the conservation efforts there.

South Sound Prairie Restoration

Activities at SCCC are the result of another unique partnership. The Nature Conservancy, the US Army at Fort Lewis, and WDOC formed a joint project to grow native prairie grasses for reclamation efforts of the endangered South Sound prairie ecosystem.



Offenders starting native prairie plants at SCCC
Photo by B Drummond

Under the guidance of a Conservancy biologist, SCCC offenders and staff are propagating 200,000 native plants from seed.

When mature, teams will transplant the native plants into the protected and largest remaining portion of Puget Sound's native prairie ecosystem, which is located inside the Fort Lewis perimeters.

Scientific Research

Beekeeping, a long-established activity at CCCC and SCCC, has expanded with the help of biologist and beekeeper Mr. Sam Hapke. In addition to overseeing the

construction and population of additional hives, Mr. Hapke will run a Beekeeping Certification program and conduct research on hive health with the assistance of offenders at the two facilities. The Department plans to expand this program to other facilities.



Biologist (In foreground) and offender working with bees at CCCC
Photo by B. Drummond

Sustainability Outreach

A lecture series brings experts on topics including organic gardening, recycling and materials reuse, forest ecology, clean energy, wildlife conservation, ornithology and the "green jobs" market to all four participating facilities. In addition, WCCW is requesting sustainability topic lectures that focus on woman's health and wellness.

Sustainability Data

All 15 prisons submit their sustainability data quarterly to the sustainability coordinator. Prison staff members collect data on energy, fuel, water and paper use, wastewater discharge, solid waste and hazardous waste disposal, and on recycling and composting.

Because offender populations drive activities, staff members analyze the data both in total and per offender. The graphs on the following pages show results along with written summaries.

The Department now has at least five years of reliable data for prisons, except for MCCCW, which uses FY06 as a baseline since that is the first complete year of data for that facility.

Collection and monitoring of resource consumption data has provided the tools and information to target problem areas and develop innovative solutions to further sustainability goals.

Work releases, headquarters, and community corrections offices are not included in this report. The Department has not yet established mechanisms for data collection at these locations.

Sustainability Goal 1 – Reduce WDOC Dependence on Non-Renewable Energy and Fuel Sources Energy Use

Prisons use a variety of energy sources, including electricity, natural gas, propane, and fuel oil. All forms of power used for building heating and cooling, lighting, backup power, hot water, and steam are included in this energy data, and expressed in kilowatt-hours (KWH), except for figures 1 and 2, which use British Thermal Units (BTU). However, this section does not include fuel for vehicles and heavy equipment operation; this report addresses that topic in the Fleet Fuel Consumption Section.

The Department has tracked energy use since 2001, when originally requested by Governor's Directive 01-01 on energy conservation. Executive Order 05-01 set the goal of 10 percent energy reduction by September 2009, based on the FY03 baseline.

Therefore, the WDOC energy graphs begin with the FY03 baseline.

Records indicate that 2003 was warmer than normal and therefore one of WDOCs lowest years for energy use, which makes a challenging baseline for measuring progress.

The weather normalization project will help reveal the true result of efforts to achieve reductions in energy use.



Stafford Creek Corrections Center by B. Drummond

Table 2 – Presents Total Facility Energy Use for FY03 through FY09 with All Energy Sources converted to KWH

Total Annual Energy Use			
Fiscal Year	KWH	KWH per Offender	KWH per sq. ft.
FY03	387,371,962	1,809	4.08
FY04	389,677,690	1,822	4.01
FY05	394,988,544	1,788	4.00
FY06	387,518,794	1,814	3.82
FY07	403,319,934	1,868	4.02
FY08	420,632,554	1,934	4.07
FY09	410,990,709	1,891	3.85
Percent Change from FY03	6.1%	4.5%	-5.7%

Note: Overall, total energy use at facilities has increased 3.7 percent over the reporting period.

Progress Controlling Energy Consumption, Controlling Costs

“The legislature finds that energy efficiency is the cheapest, quickest, and cleanest way to meet rising energy needs, confront climate change, and boost our economy. More than thirty percent of Washington's greenhouse gas emissions come from energy use in buildings. Making homes, businesses, and public institutions more energy efficient will save money, create good local jobs, enhance energy security, and reduce pollution that causes global warming.”

House Bill 5854

Use of Alternative Funding Methods for energy conservation projects

The Department uses “Energy Performance” audits to fund and deliver conservation projects when capital funding is unavailable. The audit quantifies achievable savings of a given project. If the project cost is recoverable in less than ten years, the project usually receives approval for construction.

Upon project completion, the Energy Services Company (ESCO) provides a Verification Report that proves the expected energy savings. If the anticipated savings do not materialize, the ESCO must pay the difference to the state. The operating budget pays the investment loan

from savings in utility costs. The benefit of using this alternative funding source is that it ensures a return on taxpayer investment.

Major Utility Conservation Projects Completed in 2009 at SCCC and WCCW

Stafford Creek Corrections Center

Heating

Upgrades to the SCCC heating and air handling system resulted in a 22 percent reduction in natural gas consumption.

The completed work includes:

- Installation of a high-efficiency boiler to improve fuel burning efficiency
- Replacement of direct-fire heat exchanger with a water-coil heat exchanger to achieve a more efficient transfer of heat
- Installation of variable frequency drives on air handling motors for more efficient operation of heat recirculation fan motors

Lighting

Light Replacements (Re-lamping) – The Department replaced all perimeter lighting at SCCC to reduce power consumption. The prison replaced 400-watt lamps with 250-watt lamps without compromising visibility or security. The estimated power savings will be 108 to 148 kilowatt hours per year. This is a savings of approximately 27 percent over the existing system.

Washington Corrections Center for Women

Heating

Most of the buildings making up the WCCW 1970's campus had old heating control systems, which were failing or in severe need of re-commissioning. The re-commissioning addressed and corrected the problem of the heating systems operating for excessive hours and components in need of adjustment or replacement.

Lighting

Light Replacements (Re-lamping) – The majority of the lighting systems throughout the campus were old

technology florescent (T-12 lamps with magnetic ballasts) as well as various incandescent fixtures. New technology lamps with electronic ballasts and compact fluorescents replaced the old lighting system.

Water

As part of this utility project, WCCW addressed water conservation resulting in significant saving in consumption of potable water. See the potable water section of this report for more details.

Most of the plumbing fixtures on the campus pre-dated low consumption equipment. The prediction was to achieve a reduction of approximately 16 percent in associated water consumption.

The project has an anticipated savings of over \$163,500 annually in utility costs (16 percent of the utility bill). Early indications show a 12 percent reduction in facility energy use per offender from the 2004 baseline.

The facility completed the energy work in January of 2009. Calculated savings should improve as more data is collected.

The following figure illustrates total metered energy consumption activity. The data used to construct this graph has not been normalized for square foot of conditioned space or on a per offender occupation basis.

Figure 3 – Annual Energy Consumption by Facility FY03 and FY09 Trend

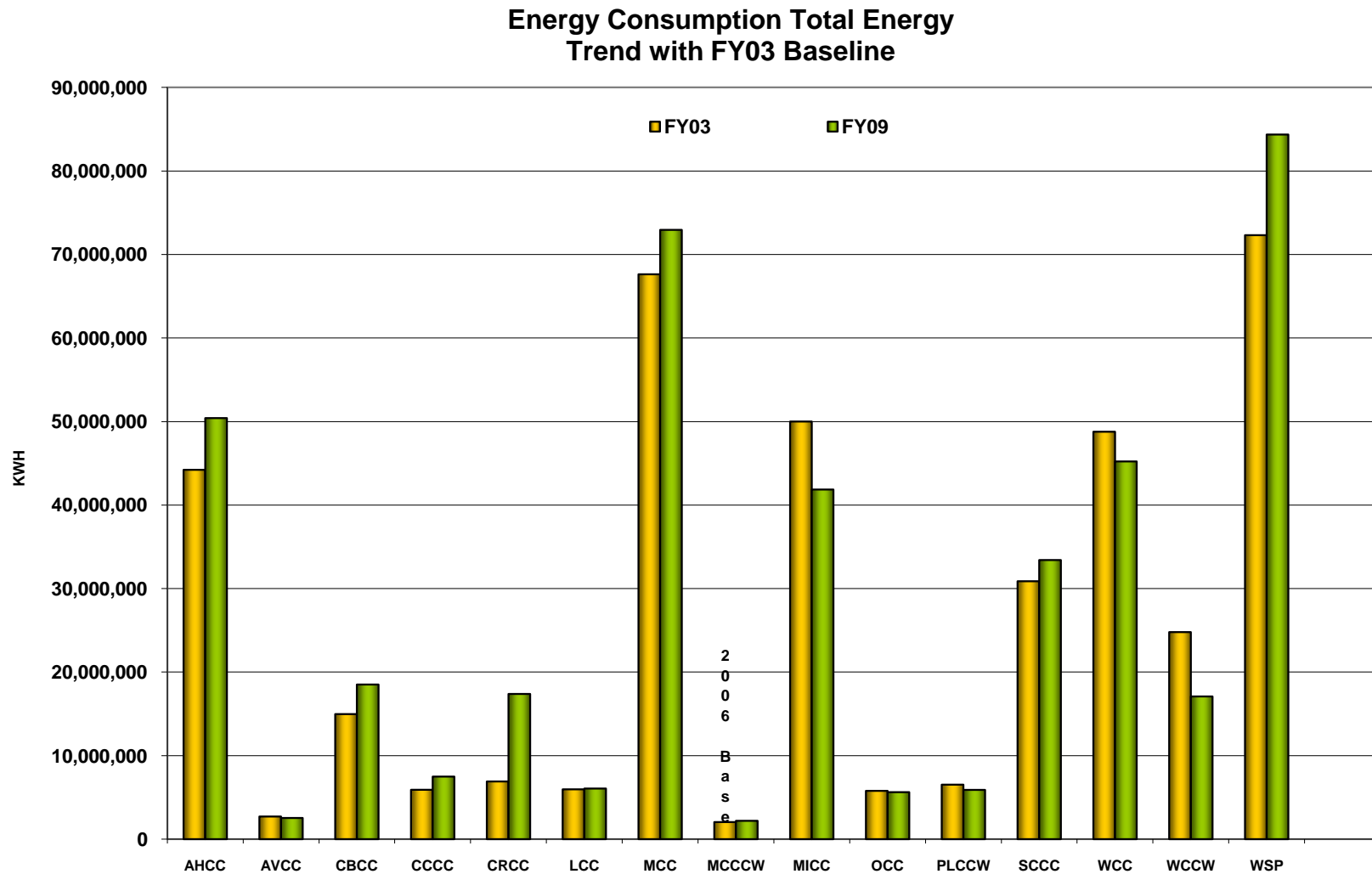


Figure 4 – Illustrates Annual Energy Consumption per Facility FY03 and FY09 Trend per Square Foot

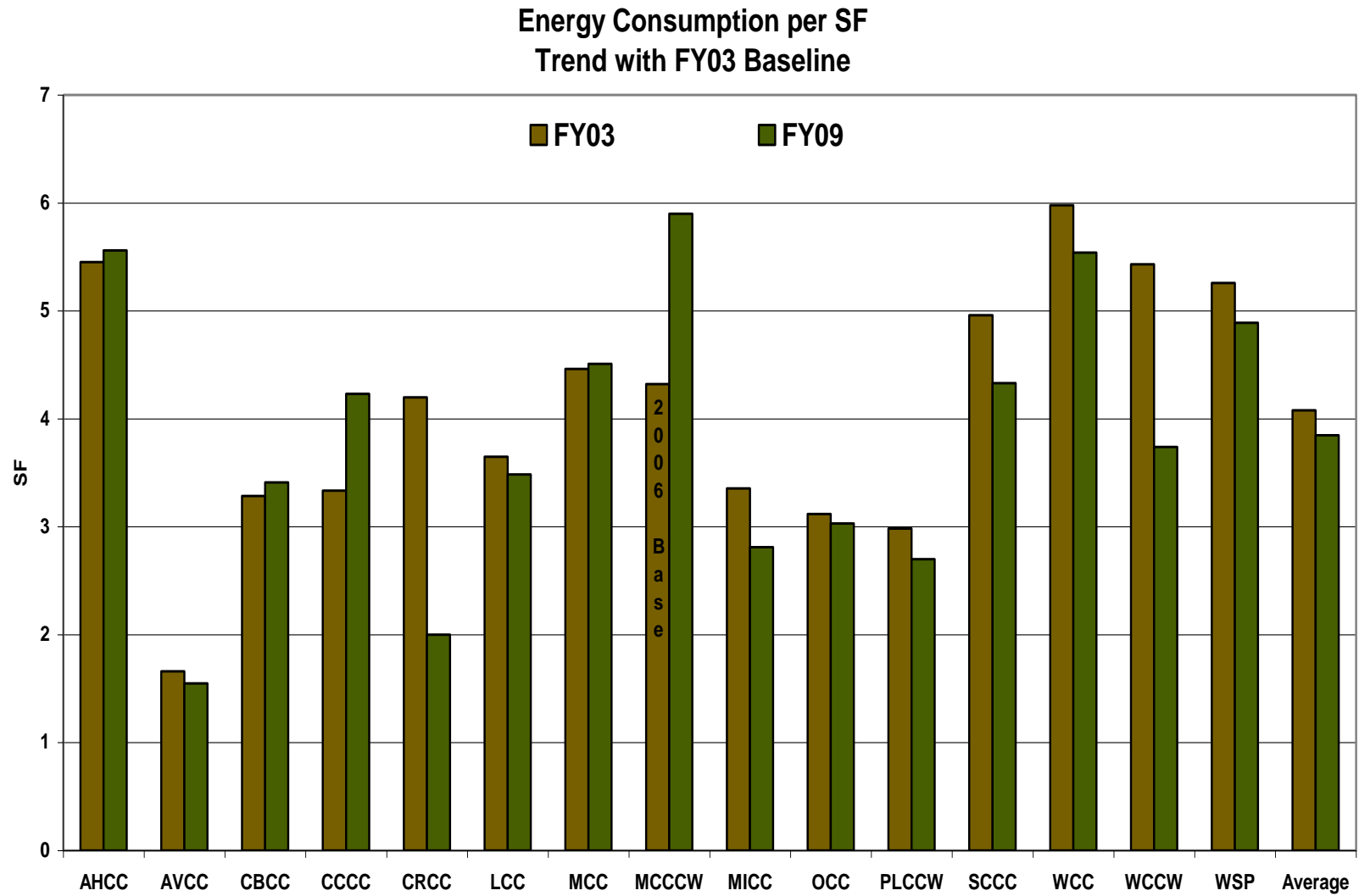


Figure 5 – Illustrates the Trend of WDOC Energy Use on a per Offender Basis

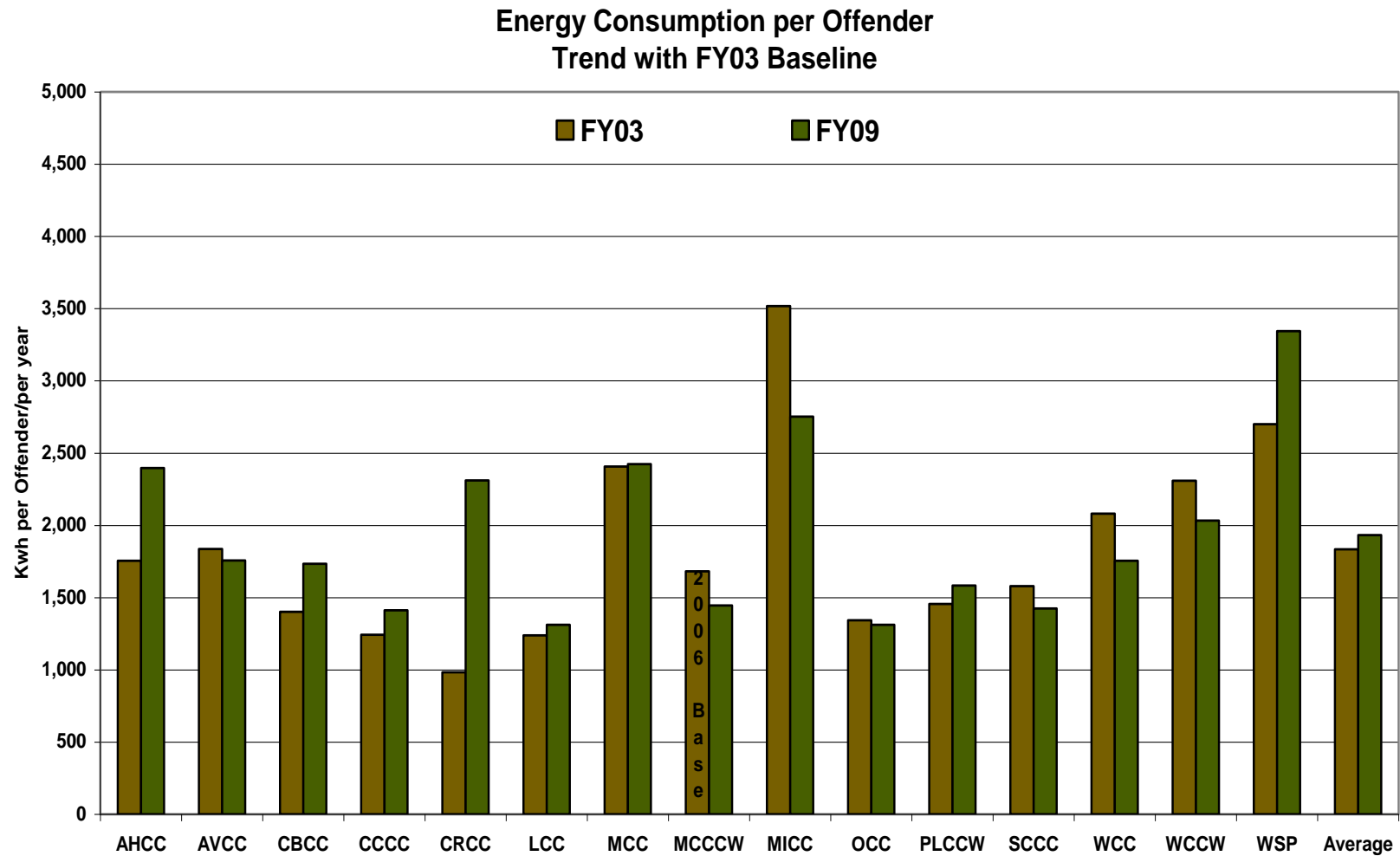


Figure 6 – Illustrates the Performance of the Facilities from the Baseline Year of FY03 to FY09

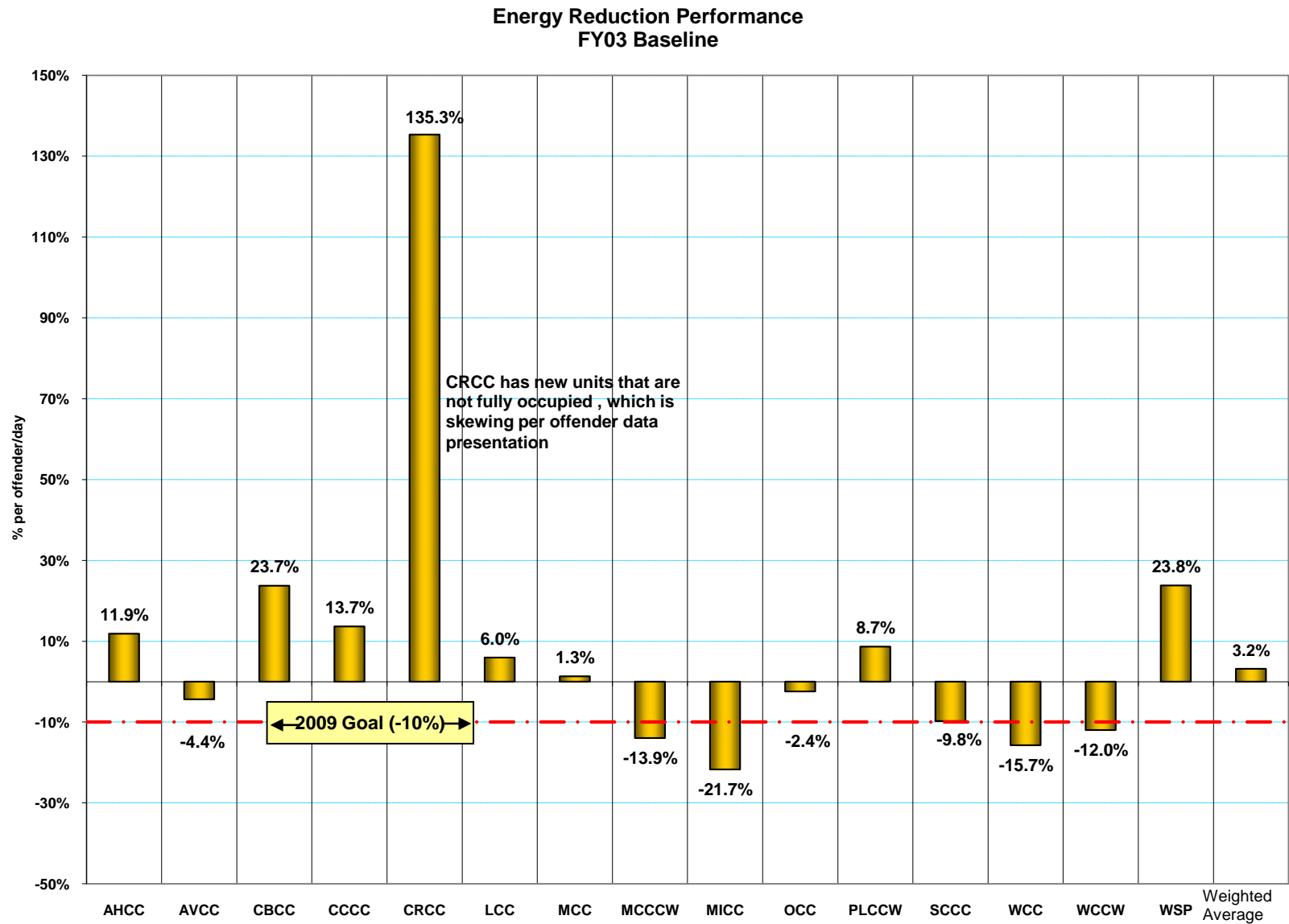
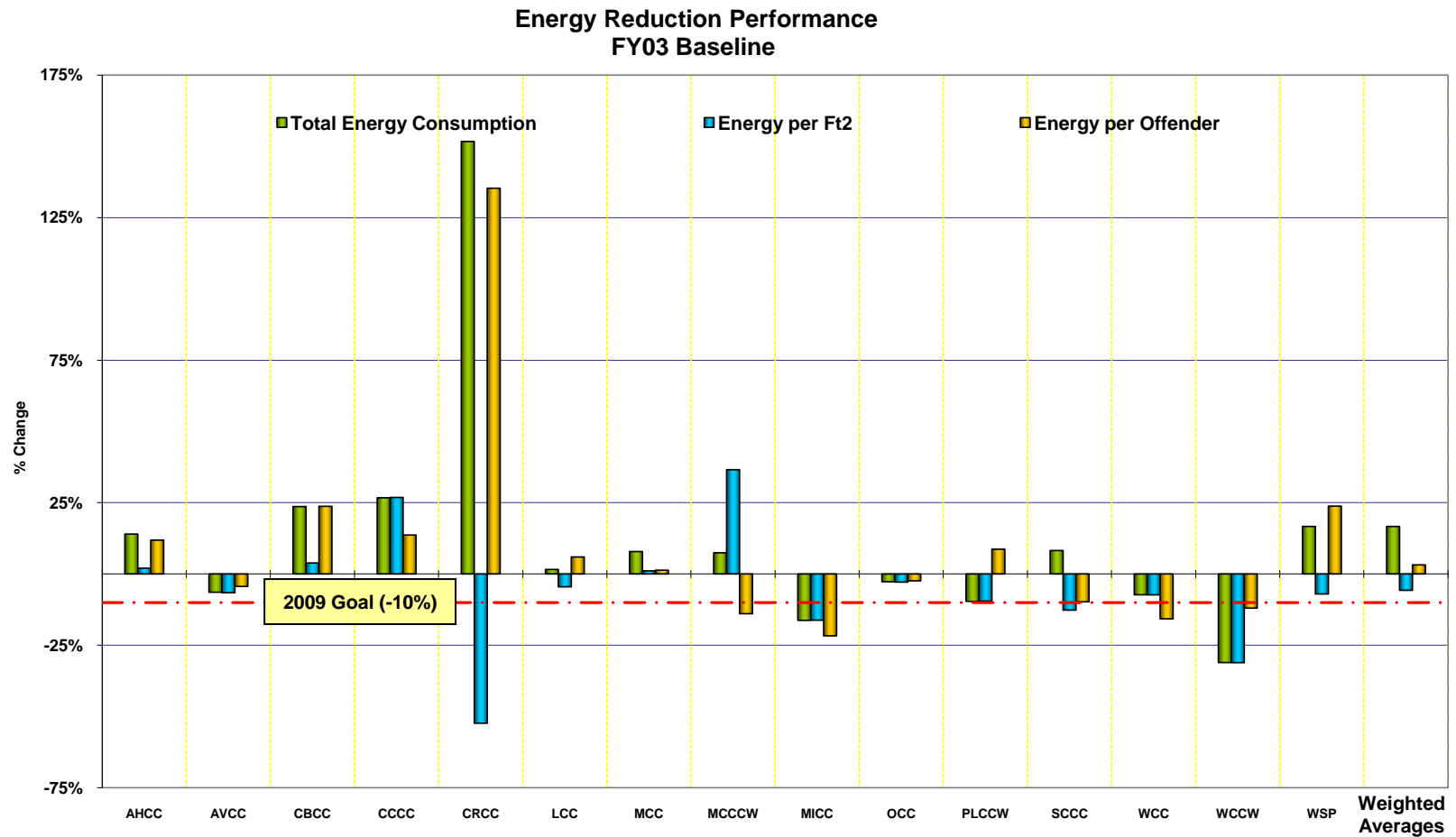


Figure 7 – Illustrates Progress for the Three Energy Measures Side-by-Side



Note: The SCCC energy consumption data reveals an unexpected relationship between the three measures used. Several factors affect this data display. The SCCC facility offender population increased by 20 percent and the facility expanded by 124,479 sq. ft. In addition, SCCC added programs that increase activities and added space not included in the conditioned square footage (i.e., the trash-sorting pavilion and equipment, and greenhouses) – all added after the baseline year.

Department Fleet Fuel Consumption Data

Executive orders and Department sustainability goals require reduction of fuel consumption. The Department's goals are to:

- Reduce petroleum consumption by 20 percent from FY03 levels by September 2009;
- Reduce petroleum consumption by 20 percent in the operation of personal vehicles used for state business by September 2009; and
- **In 2008, WDOC added a new target – to reduce fuel consumption by 5 percent by July 2009 – and achieved a 16 percent reduction in fuel use from FY08 to FY09.**

Background

This report tracks diesel and gasoline fuel used in Department vehicles. Fuels include bulk fuel purchases as well as fuel purchased offsite and paid for by the Voyager credit card. Gasoline or diesel used in personal vehicles is not included before 2006.

Every prison has a fleet of vehicles made up of cars, vans, trucks, busses and heavy equipment. In addition, MICC also operates ferries, barges, and small watercraft.

The larger prisons have their own maintenance shops and fueling stations.

Table 3 – Presents the Total Amount of Gasoline and Diesel Use from FY04 through FY09

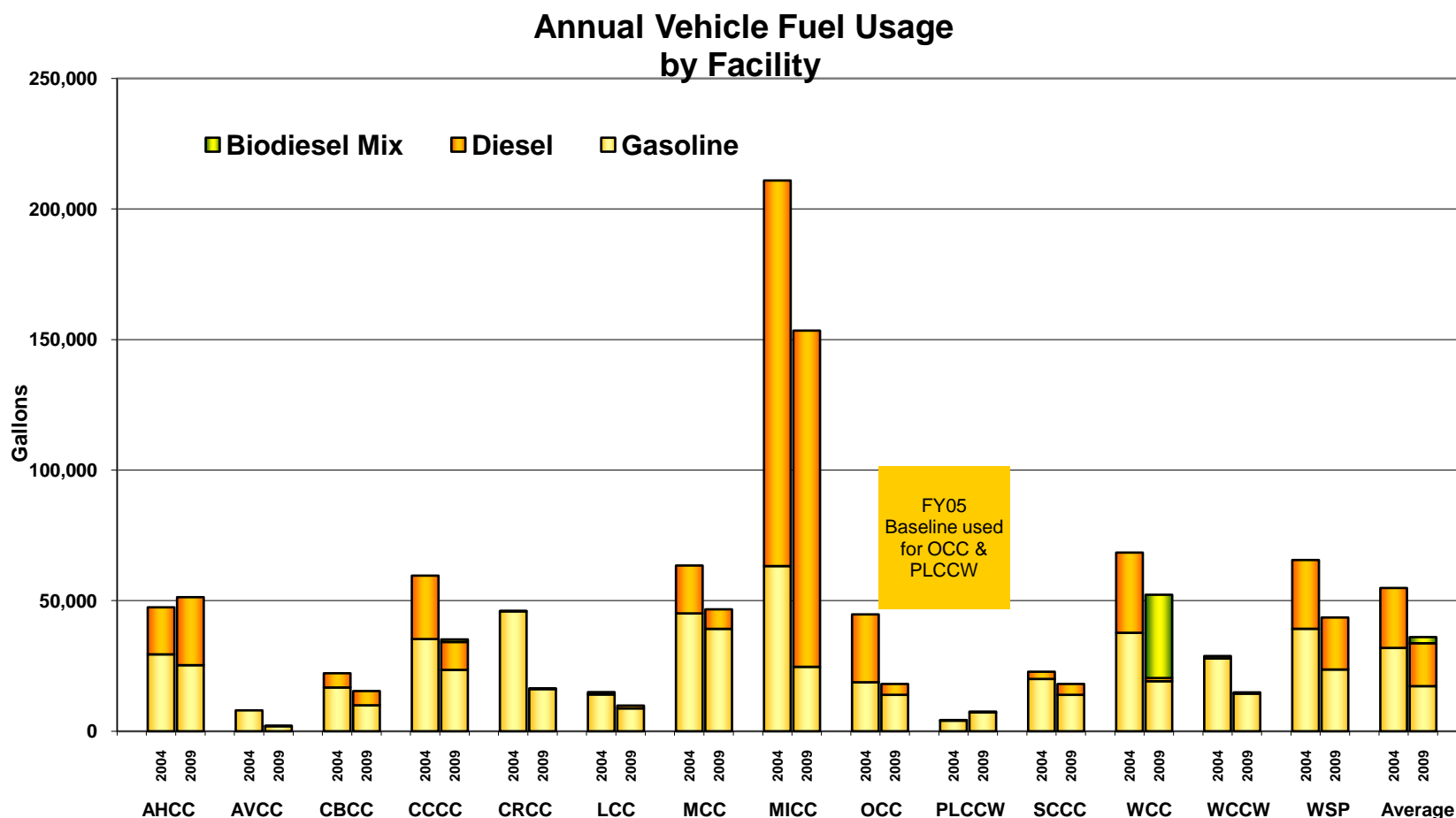
Table 3 – Total Annual Prison Fuel Use			
Fiscal Year	Gasoline Gallons	Diesel Gallons	All Fuel Gallons
FY04	399,205	302,674	700,879
FY05	360,475	305,464	665,939
FY06	343,308	247,070	590,377
FY07	343,850	242,679	586,529
FY08	345,181	287,220	632,401
FY09	261,799	271,119	532,918
% change	-34%	-10%	-24%

Note: The total amount of diesel used in Table 3 includes bio-diesel.

Table 4 – Presents Only Bio-Diesel Use

Table 4 – Total Annual Prison Biodiesel Use	
Fiscal Year	Gallons 100% Biodiesel
FY04	0
FY05	213
FY06	1,536
FY07	5,398
FY08	6,949
FY09	6,572

Figure 8 – Illustrates the Relationship of Fuel Type Used at Each Prison Facility



Note: The largest consumer of diesel is McNeil Island where a fleet of vessels provide the transport of all persons and supplies to both the WDOC prison and the Department of Health and Human Services facility co-located on the island. The second largest consumer of diesel is WCC, the location of the Receiving Center through which all male offenders process (and are then transported by bus) to their assigned facility elsewhere in the state. It is important to note that WCC's highest use is for biodiesel for transport buses. The baseline for OCC and PLCCW is FY05 because accurate FY04 data was not available.

Figure 9 – Illustrates the Trend of All Types of Fuel Use on a per Offender Basis

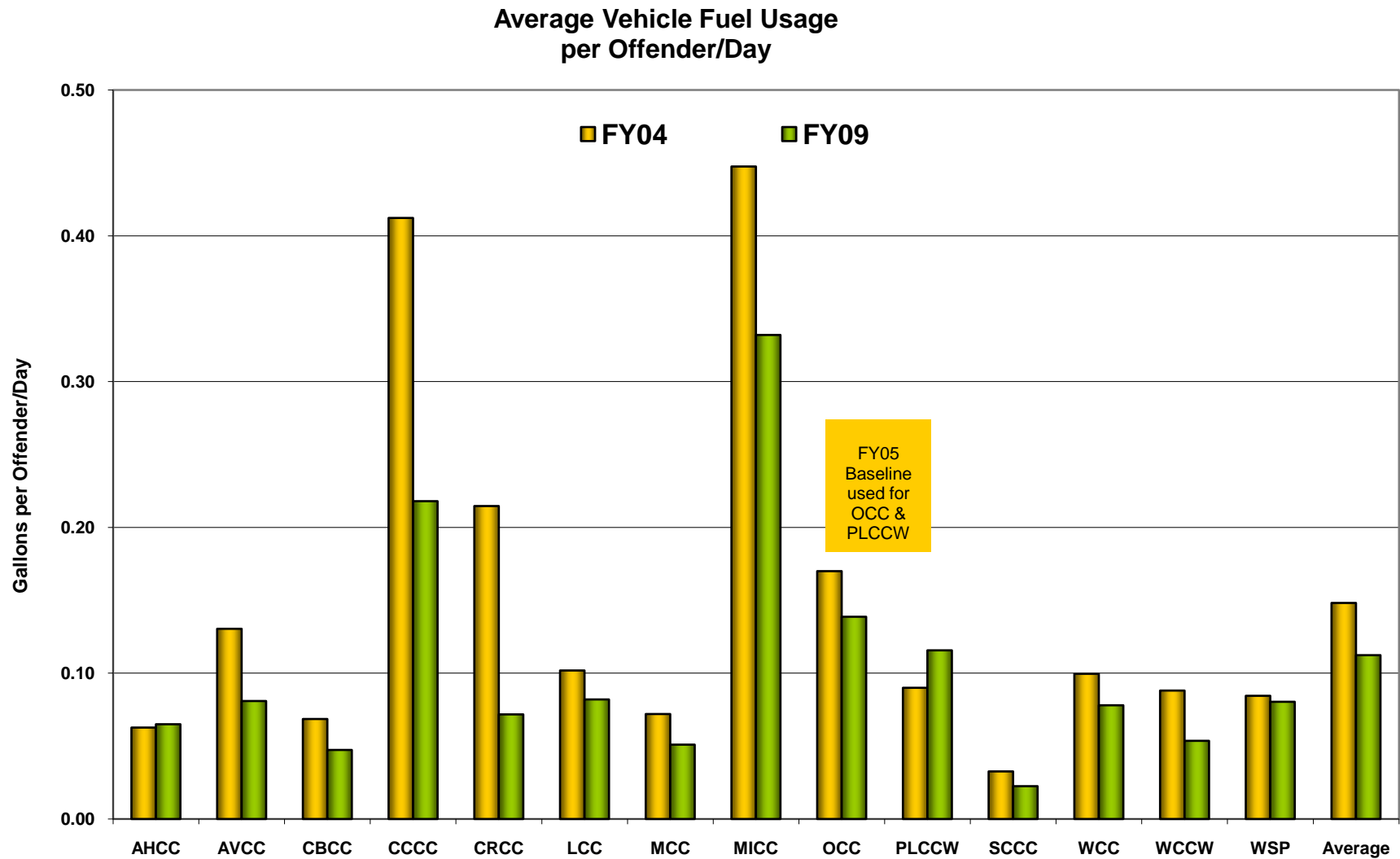
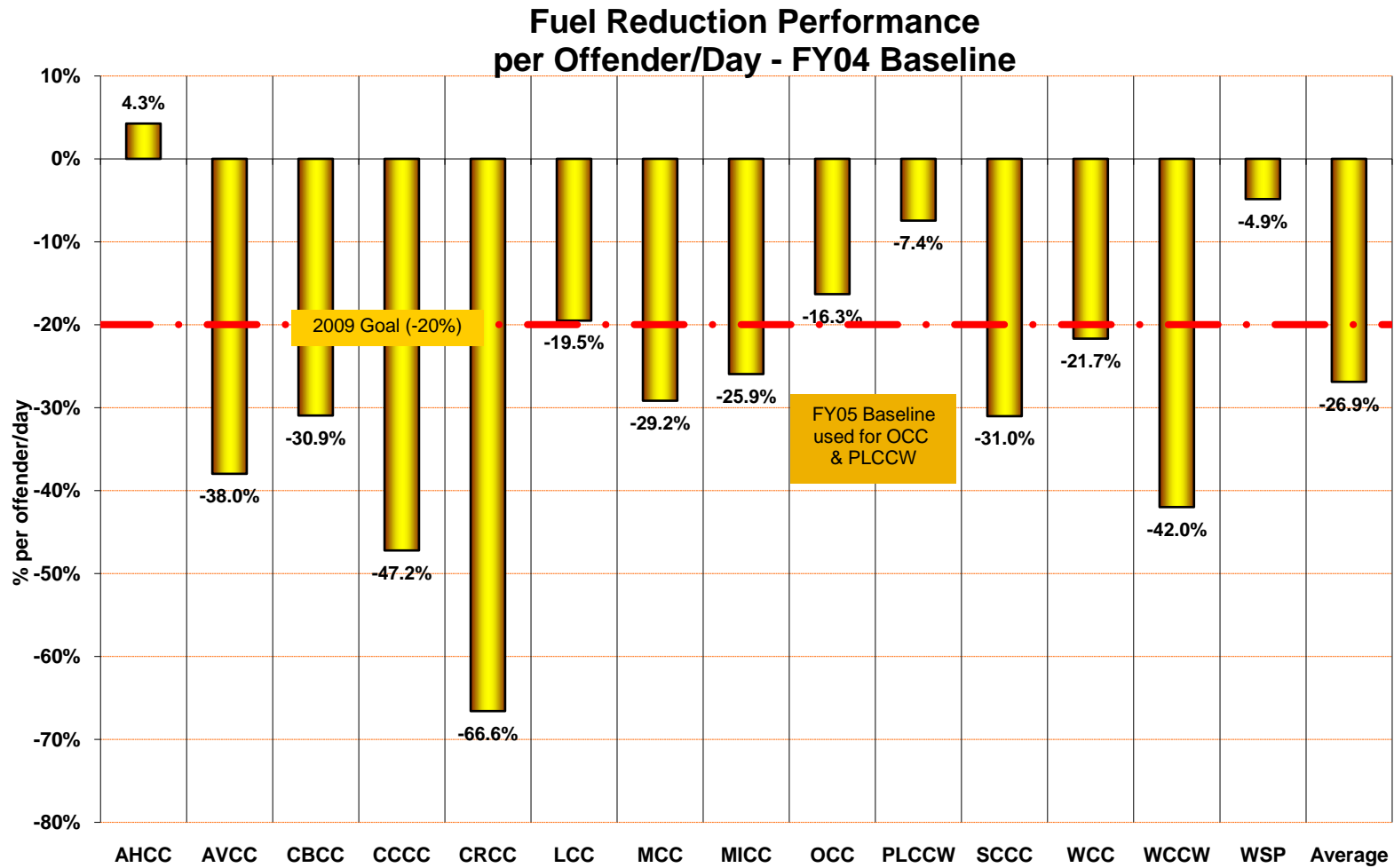


Figure 10 – Illustrates Dramatic Vehicle Fuel Consumption Decreases at All But One Facility



Note: A very low baseline figure skews the AHCC data because AHCC has decreased gasoline consumption for light duty vehicles by 37 percent since FY08 and diesel consumption has decreased 25 percent from FY08. Average consumption for the fifteen facilities has decreased by 23.9 percent from the baseline year.

Sustainability Goal 2 – Reduce Potable Water Use

The Department has been reducing potable water consumption with the construction of LEED® certified buildings and by making needed repairs and in existing water systems. Major water system repairs completed over the last several years have resulted in consistent reductions in potable water consumption. However, significant water system failures and fire hydrant maintenance in 2009 are associated with this year's increased consumption.

Eight prisons purchase water from local jurisdictions and seven maintain their own water systems. Data comes from on-site meters or utility bills. Five prisons use non-potable water to augment their water needs. The non-potable water uses include the irrigation of landscaping and vegetable gardens as well as the flushing of hundreds of toilets and urinals.

- Rainwater collection at CCCC and SCCC for irrigation landscaping and vegetable gardens
- Using reclaimed water from the city treatment plant for lawns and gardens at PLCCW
- Using approximately 7,500 gallons per month of treated wastewater for plant maintenance at WCC
- Using collected rainwater at MCC, CCCC, and SCCC to flush toilets and urinals



Rainwater catchment at Cedar Creek Corrections Center

Table 5 – Presents the Total Water Use Decrease from the Baseline Year

Table 5 – Total Annual Water Use		
Fiscal Year	Gallons total	Gallons per offender/day avg.
FY04	890,209,212	149
FY05	846,072,441	141
FY06	874,598,080	149
FY07	885,086,001	146
FY08	878,634,405	143
FY09	901,114,209	150
Percent Change From FY04	1.2%	.07%

Analysis of Graphs

Average potable water use per offender ranges from 88 gallons per day at WCCW, to 229 gallons per day at OCC, with an overall statewide average of 150 gallons per offender per day.

The high water use at OCC is due in part to leaks in the distribution system and some common use with the neighboring Department of Natural Resources facility.

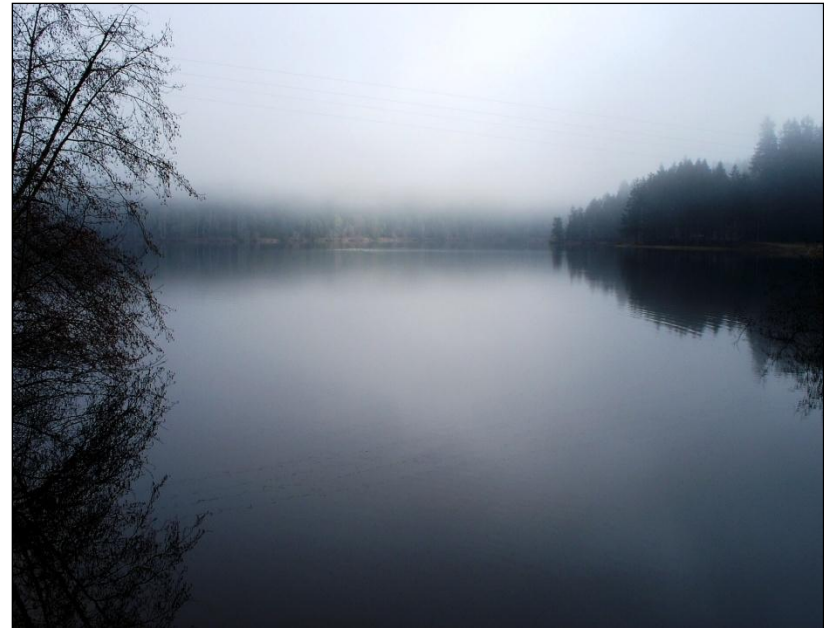
Leaks tend to be a common problem in the older facilities, such as MCC, MICC, WSP and CBCC. Projects are proposed or underway at these facilities to repair these leaks and get the water systems operating efficiently.

The Correctional Industries Food Factory is located at AHCC, and is an industrial food preparation facility. The food factory uses large amounts of water, though there are no separate water meters to verify this assumption.

Historically one of the lowest potable water users among the Department's 15 prisons is WCC. In WDOC's FY08 Sustainability Report, WCC achieved an average consumption level of 99 gallons per offender per day. Following that report update, WCC saw the WCC potable water consumption figures spike in response to two significant water system problems. Both the 500,000-gallon water tower and the cooling tower developed structural leaks in the fall of 2008.

These leaks resulted in high potable water consumption throughout the winter months until repairs to these major systems were completed. The system repairs and equipment upgrades should result in a water use reduction in the range of 25,000 gallons per month; returning WCC to its previous low potable water usage.

Notable reductions at MICC are a result of repairs to the distribution system.



The MICC Butterworth Reservoir
Photo by Eric Heinitz

Notable Reductions during FY09

Water Conservation at WCCW

During the past year, WCCW benefited from campus-wide water system upgrades. This project was part of a total utilities upgrade, including the energy portion, with an anticipated 16 percent savings in total utility costs.

Most of the plumbing fixtures on the WCCW campus predated low-consumption equipment. The facility upgraded the old fixtures by retrofitting the existing toilets and lavatories with new toilets, flush valves, diaphragm kits and faucet aerators. The expectation is for a reduction of approximately 16 percent in associated water consumption.

The facility completed the water conservation portion of this project in March 2009. Initial data for the first two months shows a significant savings in water usage.

Table 6 – Presents Reductions at WCCW after the Systems Upgrade

Table 6 – WCCW Water Use Sample Month Comparison			
Month	Gallons total FY08	Gallons total FY09	Percent change
April	2,655,879	1,384,427	-42.1%
May	3,031,599	1,310,825	-56.8%
June	3,110,334	2,662,650	-14.4%*

*June's relatively small reduction gain is due to fire hydrant flushing and maintenance during this month

Figure 11 – Illustrates the Volume of Water Consumed by Facility

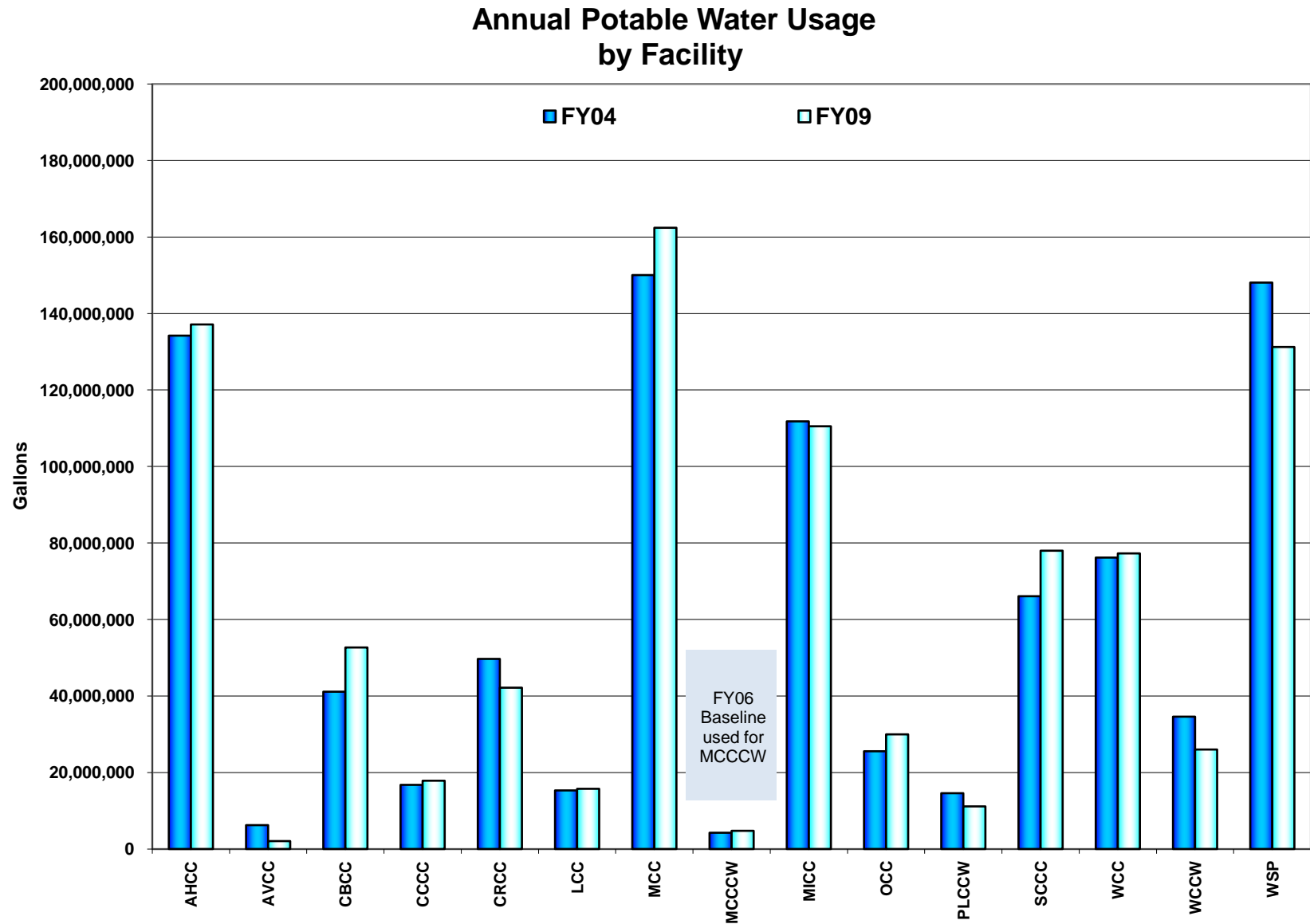


Figure 12 – Illustrates the Volume of Water Consumed on a per Offender, per Day Basis

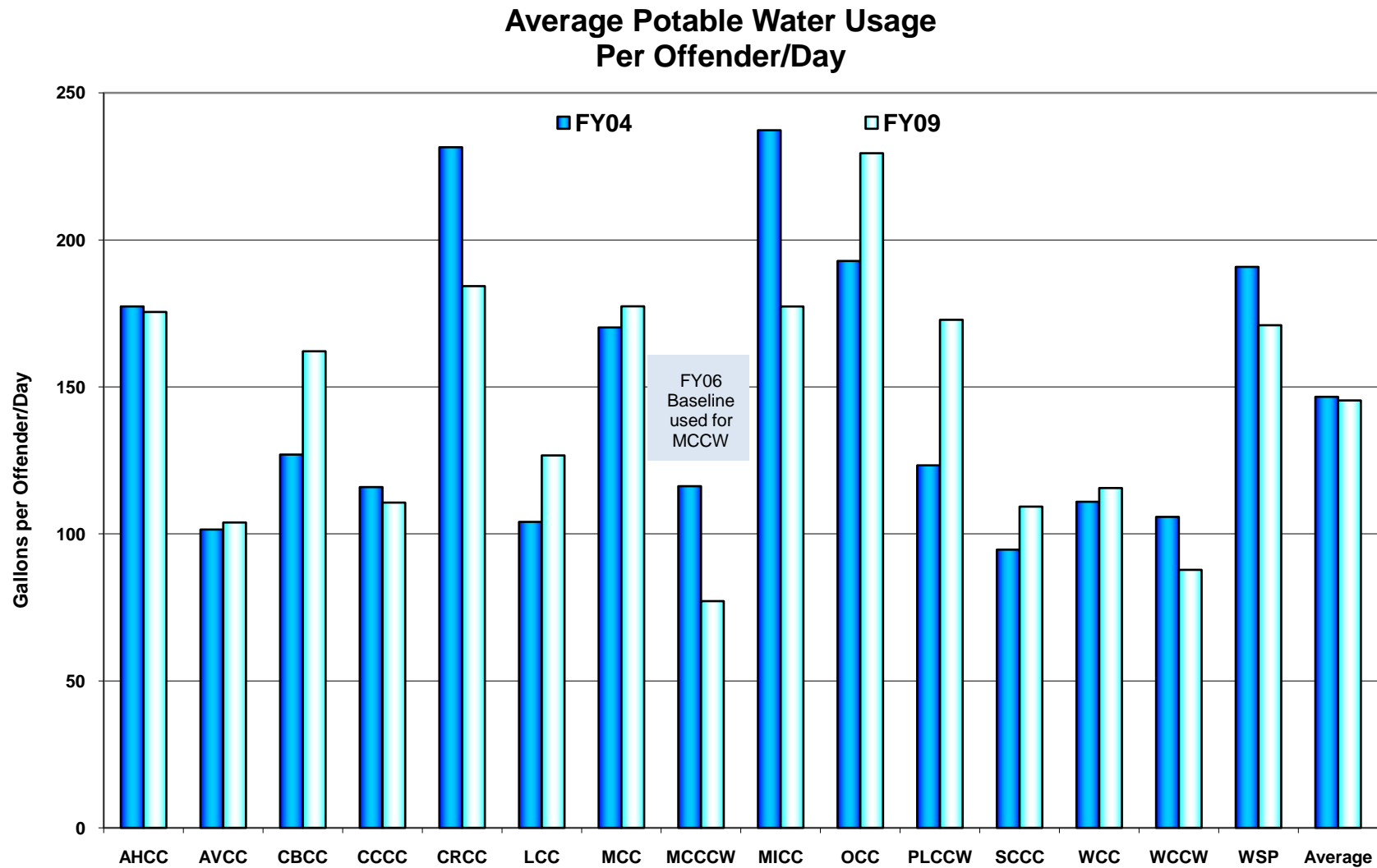
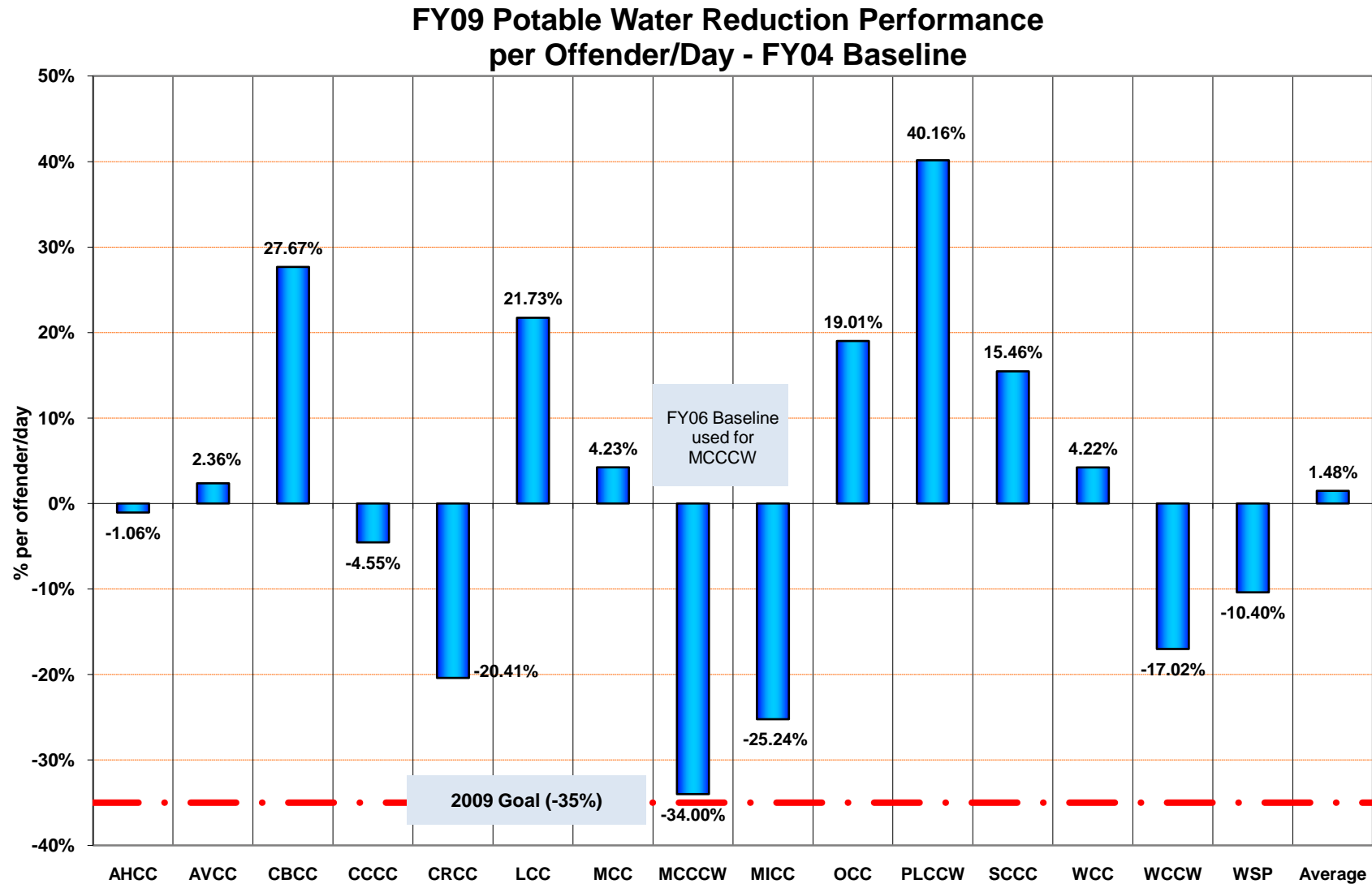


Figure 13 – Illustrates the Progress of Each Facility to Meet the Reduction Goal



Wastewater Discharge

Wastewater volumes relate directly to weather as well as water use. The Department needs long-term trends to determine real changes in discharge volume.

Current data shows an overall reduction in WDOC discharge by 4.5 percent from FY04. Reduced wastewater discharge signifies reduced water use and results in cost savings.

The Department has increases at CBCC, MICC, WCC and WSP. The increase at CBCC is partly due to infiltration into the wastewater collection system. Repairs are underway.

The increase seen at WSP is attributable, in part, to stormwater still connected to the wastewater system and the related last year's severe winter along with a significant water system release.

The increase at WCC is due to two major water system failures occurring during the year described in the previous section. The leaking water drained into the sanitary sewage system.

Figure 14 on the following page illustrates total annual wastewater volumes for each prison for FY04 compared to FY09. Staff members obtained data from on-site sewer meters or from billing records.

The Department does not meter wastewater at AVCC, CRCC, MCCCW, or PLCCW so there is no data for these facilities. The totals in Table 7 do not include the wastewater from non-metered facilities.

Table 7 – Presents the Overall Reduction in Wastewater Discharge

Table 7 – Total Annual Wastewater Discharge	
Fiscal Year	Gallons
FY04	690,346,484
FY05	670,388,898
FY06	643,527,396
FY07	675,133,478
FY08	667,990,626
FY09	664,985,370
Percent change	-3.5%

Figure 14 – Illustrates Activity of Total Wastewater Generation from FY04 to FY09 for Each Facility

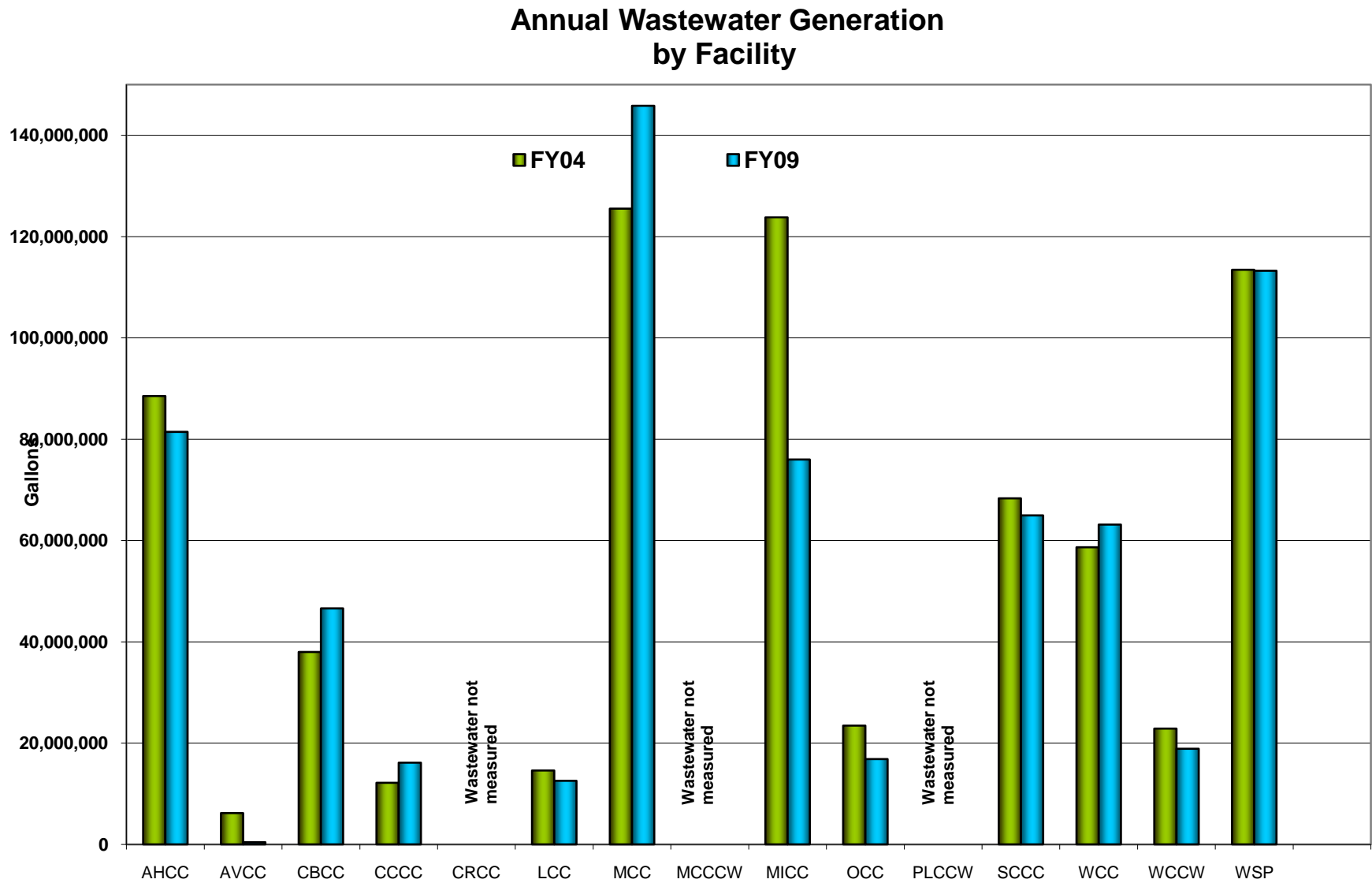


Figure 15 – Illustrates the Volume of Wastewater Generated per Offender, per Day

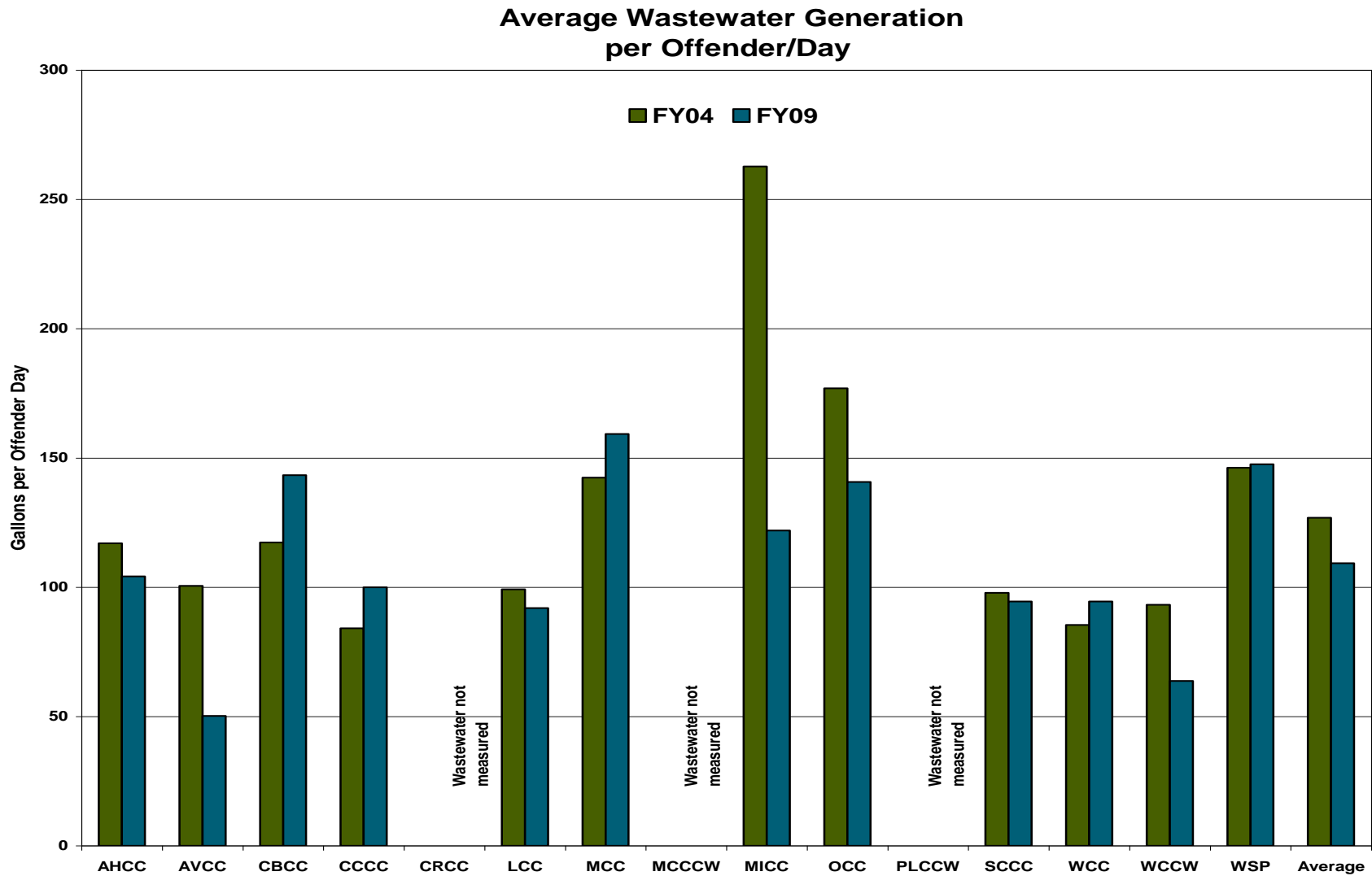
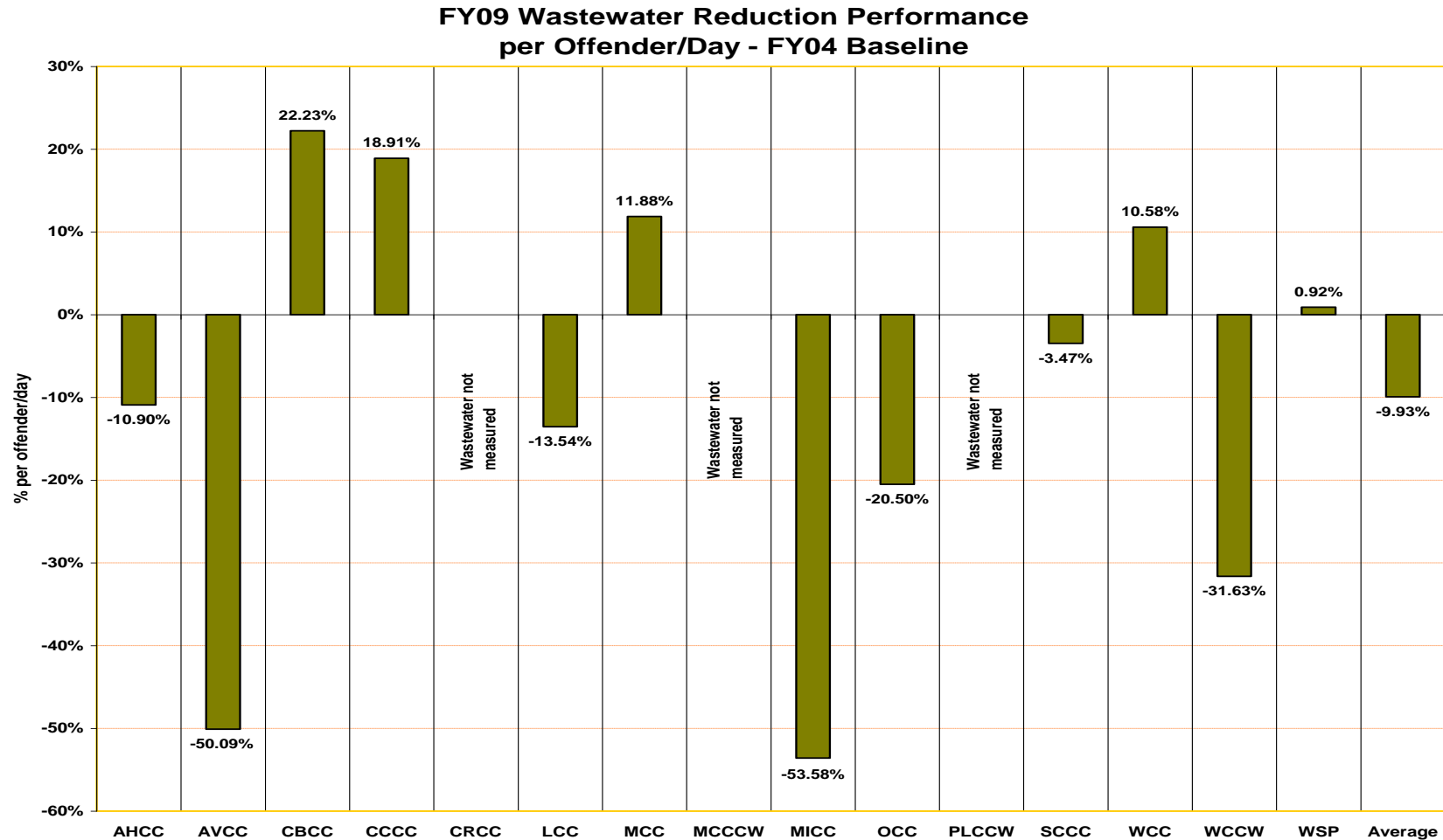


Figure 16 – Illustrates the Performance of the Facilities in Reducing Wastewater Generation



Note: The Department has no specific wastewater generation goal; however, the desire to reduce potable water consumption and the associated wastewater treatment cost savings drive this measure.

Sustainability Goal 3 – Reduce Use of Toxic Materials

Many elements fall under this goal including hazardous materials used in cleaning, manufacturing, building and grounds maintenance, hazardous waste disposal and unused pharmaceuticals.

To date, hazardous waste disposal is the only data available to measure Goal 3 and there are many inconsistencies. Not all facilities report disposal data. Hazardous waste disposal is a periodic activity and therefore the data is irregular. Cleanup efforts to remove unwanted and unused chemicals cause spikes in disposal numbers.

FY09 hazardous waste disposal numbers reflect a decrease from the FY08 disposal numbers.

The Department requires detailed tracking of all chemical products with a Hazardous Materials Identification System rating of two (2) or higher. This requirement provides increased incentive for facilities to use less toxic products. Due to the following, the Department anticipates future numbers to be lower:

- The Department's toxic materials reduction goals
- American Correctional Association (ACA) requirements provide incentives for products to be of a less toxic nature

By FY06, all but one facility, MICC, achieved and maintained the regulatory status of "small quantity generator" of hazardous waste by generating less than 220 pounds per month.

The MICC facility may never be able to achieve small quantity generator status due to maritime operations and associated maintenance needs, which require large quantities of oil-based paint and related waste; however, MICC has reduced its hazardous waste generation over the past year by 6,001 pounds.

Table 8 – Presents Total Annual Hazardous Waste Disposal by Pounds

Table 8 – Total Annual Hazardous Waste Disposal	
Fiscal Year	Pounds
FY04	23,940
FY05	20,092
FY06	5,883
FY07	22,437
FY08	27,315
FY09	24,346

The following table shows an increased disposal at MCC resulted from cleaning out stored offender hobby materials. After the one-time event, MCC reduced disposal levels to a monthly average of 32 pounds. At WCCW, a slight increase in generation occurred due to a similar clean out of materials.

Table 9 – Presents Total Annual Hazardous Waste Disposal by Pounds and by Facility

Table 9 – Facilities Hazardous Waste Generation			
Facility	FY08	FY09	Percent change
AHCC	320	114	-64%
AVCC	326	25	-92%
MCC	2,893	7,447	157%
MICC	21,036	15,035	-29%
SCCC	1,227	829	-32%
WCCW	145	175	20%
WSP	562	550	-2.0%

Hazardous Materials Use

In the past, data on toxic materials use was difficult to obtain. The time required to inventory all of a facility's products, evaluate material-safety data sheets, identify persistent bio-accumulative toxins and other chemicals, and calculate quantities exceeded the capacity of staffing levels.

Because of these difficulties, the WDOC is striving for smaller and less toxic inventories. All of the LEED® buildings have received credits for using low-emitting paints, carpets, adhesives and composite wood. Eight prisons are growing vegetables – without the use of pesticides or herbicides – instead the prisons are fertilizing with compost produced on site. The smaller prisons serve the produce to offenders and send surplus

to local food banks as an offender based community service.

The Department has not yet achieved pesticide and herbicide elimination in facility maintenance due to a lack of environmentally benign products. Prisons must keep their security fence lines clear. Due to security concerns, prisons do not allow offender crews to work along the perimeter fences pulling vegetation. Therefore, some amount of herbicide is necessary to keep the fence lines clear.

Toxics Reduction Efforts

Data from recent years reflects large cleanouts of toxic materials from facilities. Materials gathered during these efforts include accumulated surplus paint, x-ray processing chemicals, and offender hobby-shop supplies.

Common to all large facilities MICC operates a dental clinic, a firing range and an auto shop. All these activities are traditionally high consumers and producers of toxic materials.

In the dental clinic, MICC purchased an Autoclave to replace the *Chemiclave*®, to sterilize dental instruments. This allows the use of steam instead of chemicals to clean and sterilize instruments.

Most shop areas – including Diesel, Auto, Machine, Lawns & Gardens, Powerhouse, Marine, and Bike Shop – are using an aqueous solution instead of a solvent in their parts washers. In addition, the facility purchased an

Inland Technology® parts washer for the Armory, which uses a non-hazardous solvent. The filters for this washer are disposed of as hazardous waste.

The activities at MICC that contribute to its larger than average toxic waste generation are a furniture factory run by CI and a fleet of vessels that serves all of the island's transportation needs including the Department of Social and Health Services and to a lesser extent the Department of Fish and Wildlife.

The Marine Department reviewed its maintenance program to ensure that its processes are as environmentally and fiscally responsible as possible. Steps taken to reduce toxic waste include stopping the practice of sandblasting vessel hulls, reducing the content of metals and solvents in paints, and instituting a solvent reuse protocol.

An investigation into the feasibility of switching to water-based marine paint for vessel maintenance concluded that switching to water-based paints did not offer either environmental or fiscal improvement. The protocols and products chosen have been determined to be as environmentally friendly as possible within the industry standards and constraints.

Steps taken by CI statewide to reduce or eliminate toxic material in the Furniture Factory for construction and upholstery processes include:

- Switching from oil-based to water-based lacquers and adhesives and low VOC paints

- Began using a barium-free product in the Powder Coating facilities – and reusing waste product to create a finish named Eco Grey
- Began using foam in the furniture programs that is created without the use of CFCs
- Began using disposable paint cup liners in paint guns; without liners, 10 - 12 ounces of thinner was required to clean a paint gun, with liners only 4 - 5 ounces of thinner are required
- Implementing a shop towel program to launder rather than dispose of oily/greasy rags

The total of hazardous substance use and hazardous waste reduction resulting from the listed process changes is unknown at this time.

As a whole, WDOC reduced the generation of hazardous waste by 7 percent in this past year.

Sustainability Goal 4 – Increase the Sustainability of WDOC Facilities

This goal encompasses the desire of the Department to incorporate design and construction strategies and features into prisons to make the facilities inherently more functionally and operationally sustainable.

This approach incorporates a range of considerations from building performance, such as energy efficiency, to operational considerations, such as providing room for a trash sorting and recycle center within housing units.

In FY04, WDOC Capital Programs established a policy to design and construct all new occupied buildings over 5,000 square feet and all major building renovations to at least LEED® Silver standards, the U.S. Green Building Council's design standard. The 2005 Legislature passed a law requiring these same provisions for all state funded building projects.

The Department has established itself as a national and world leader in the building of sustainable and energy-efficient prison facilities. To date, WDOC occupies 34 LEED® certified structures.



The Coyote Ridge Corrections Center Expansion Project achieved LEED® Gold rating for the entire campus in October 2009.

Table 10 – Presents the Status of LEED® Projects

Building Name	Location	Square Footage	Certification Status
Penitentiary Warehouse	WSP, Walla Walla	39,000	Certified Silver September 2005
Regional Training Center	MCC, Monroe	10,000	Certified Gold October 2005
Special Offenders Unit Maintenance Building	MCC, Monroe	6,000	Certified Silver April 2007
Intensive Management Unit / Segregation Unit	MCC, Monroe	77,000	Certified Silver April 2007
Correctional Industries South Light Industrial Park	Tumwater	60,200	Certified Silver September 2007
North Close Custody Expansion Project (7 Buildings)	WSP, Walla Walla	385,975	Certified Silver July 2008
South Close Custody Expansion Project (3 Buildings)	WSP, Walla Walla	120,000	Submitted for LEED® Silver
Facility Expansion (21 Buildings)	CRCC, Connell	574,000	Certified Gold October 2009
Health Care Facility	WCCW, Gig Harbor	24,000	Submitted for LEED® Silver
Visitation Building	AHCC, Airway Heights	6,100	Certified Silver October 2009
Treatment Program Building	AHCC, Airway Heights	9,800	Submitted for LEED® Silver
100 Bed Minimum Expansion	CCCC, Littlerock	16,300	Submitted for LEED® Silver
100 Bed Minimum Expansion	MCCCW, Belfair	12,800	Submitted for LEED® Design

Sustainability Goal 5 – Reduce Waste

Under the goal of reducing waste, staff members track waste disposal, recycling, and composting as well as information on use and recycled content of paper.

Solid Waste

Figure 17 on the following page, illustrates the total waste generated by each facility along with a breakout of how much waste WDOC sends to landfills and how much the facilities are diverting from disposal via recycling and composting.

The total amount of waste generated by WDOC facilities has decreased 8.6 percent, while the amount disposed of has decreased 23 percent.

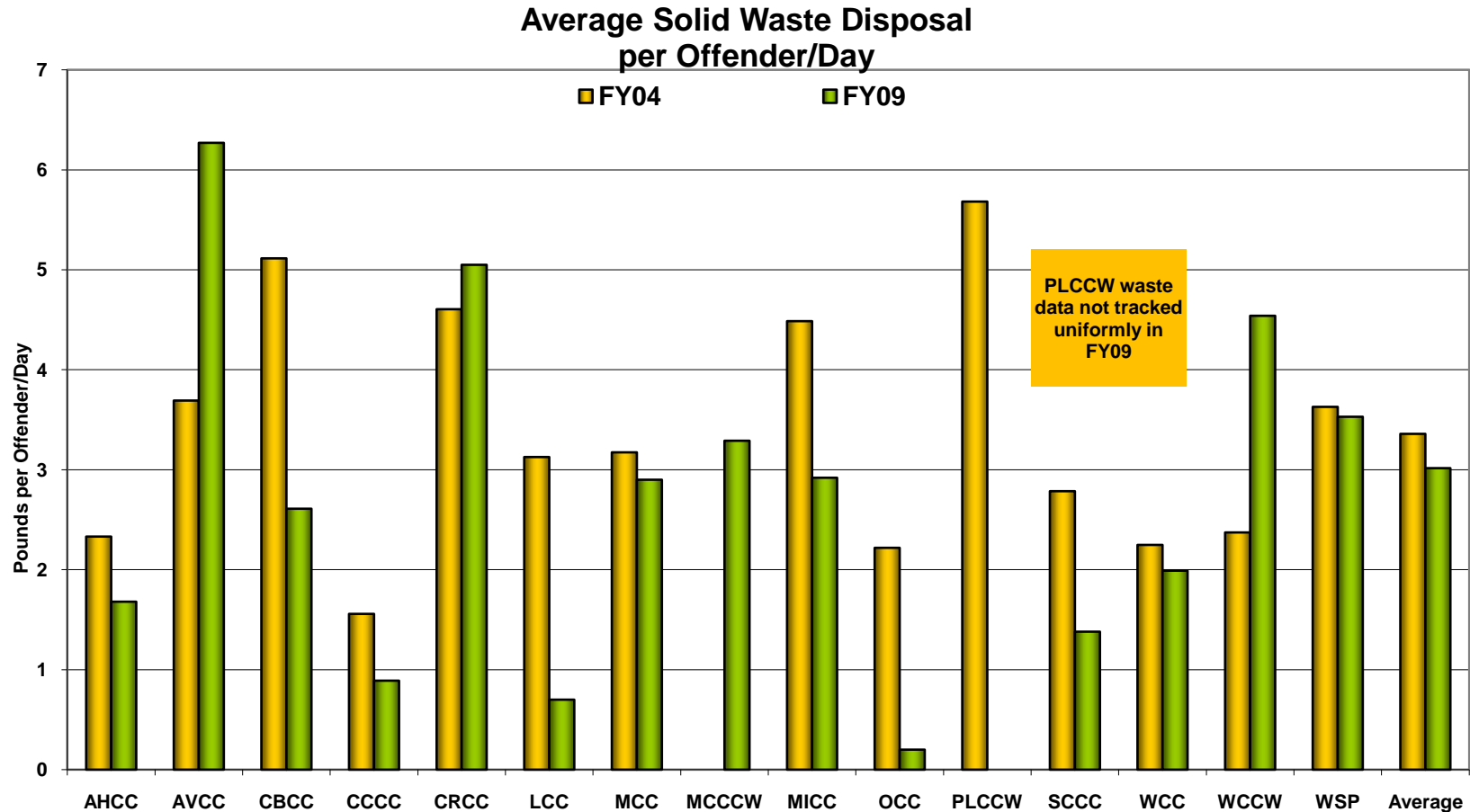
Waste diversion has decreased proportionally to the decrease in overall waste generated from the previous fiscal year (see Table 11 below).

At an average cost of \$150 per ton to send solid waste to a landfill, diverting waste to recycle or composting represents significant cost savings or cost avoidance.

Table 11 – Presents Solid Waste Management

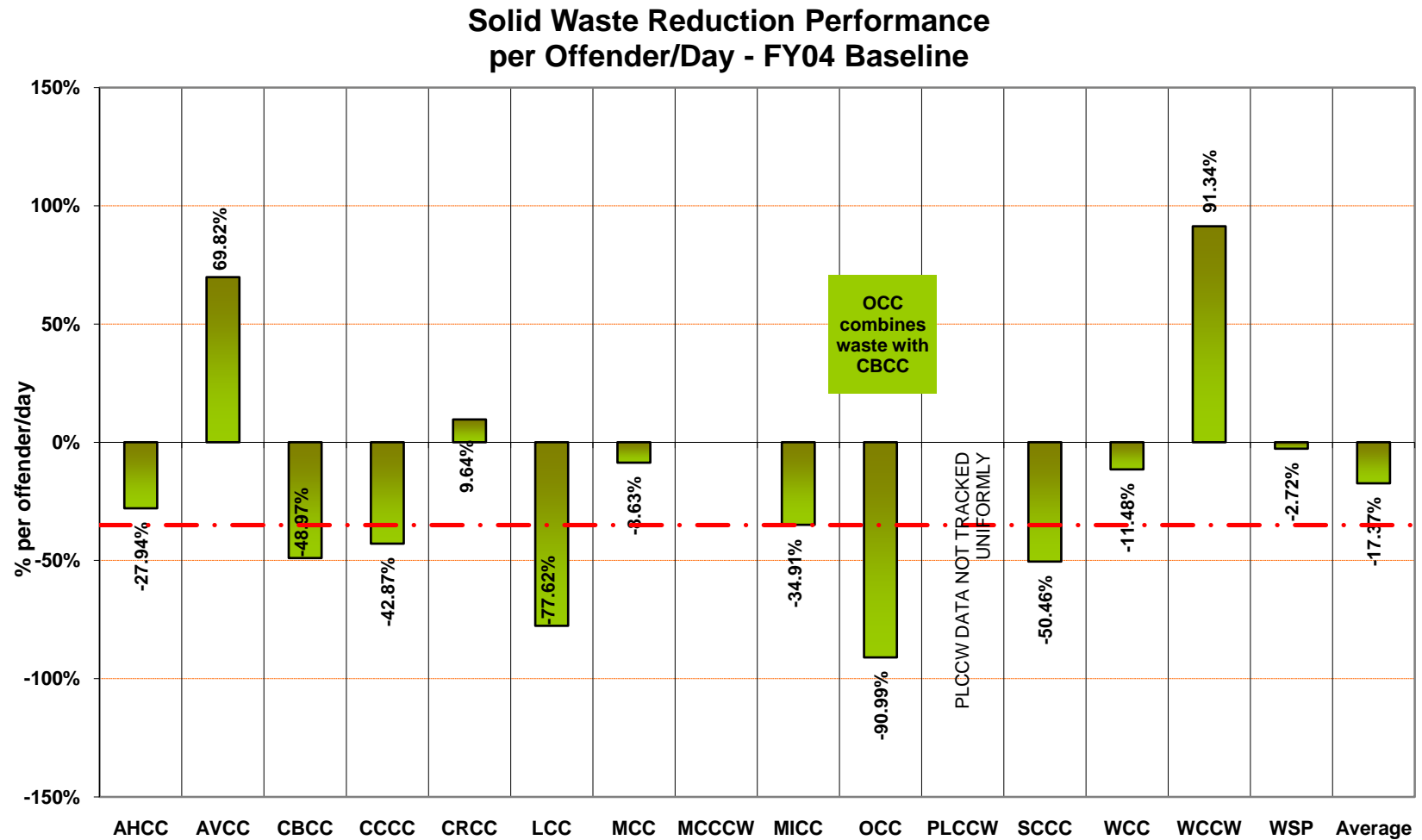
Table 11 – Total Annual Waste			
Fiscal Year	Tons Generated	Tons Disposed	Tons Diverted
FY04	11,317	9,140	2,177
FY05	10,936	7,525	3,411
FY06	11,669	7,726	3,943
FY07	10,570	7,010	3,552
FY08	10,271	6,965	3,292
FY09	10,344	7,011	3,333
Percent Change From FY04	-8.6%	-23%	53%

Figure 17 – Illustrates Total Solid Waste Disposed of (in Landfills) per Offender per Day



Note: On a per offender basis, the disposal rate has decreased 23 percent from a statewide average of 3.2 pounds per day in FY04 to 2.5 pounds per day in FY09. This is up slightly from the FY08 aggregate average of 2.4 pounds per day per offender. It appears that AVCC produces the most waste per offender; but the contract for the facility's waste management service is by volume not weight, which skews the data. The facility estimates the size of the containers and frequency of pick-up to approximate the amount of weight, which could easily be over-estimated if not all the containers are full.

Figure 18 – Illustrates Waste Reduction Performance from the FY04 Baseline



Note: Seven facilities meet or exceed the 35 percent reduction goal established for FY09 – up from only three facilities meeting this goal in FY08.

Recycling and Composting

Table 12 – Presents Data on Waste Diversion

Table 12 – Total Annual Waste Diverted		
Fiscal Year	Recycled Tons	Composted Tons
FY04	1,762	471
FY05	2,994	1,147
FY06	2,569	1,139
FY07	2,503	1,105
FY08	3,292	949
FY09	2,101	1240
Percent Change From FY04	19%	163%

Recycling

All 15 prisons have active recycling programs. Recycled materials include paper; cardboard; cans; plastic bottles; pallets; scrap metal; and textiles. Most facilities hand sort the waste to ensure maximum waste diversion.

At AHCC, offenders are engaged in hand sorting waste within their living units – involving every person in the program – promoting personal responsibility.

Other facilities, including LCC, CCCC, OCC, MCC, and SCCC have recycling centers where a team of offenders

sort waste into recycling categories. Recycling efforts continue to grow and WDOC successes are accumulating.



An offender sorting waste at SCCC
Photo by B. Drummond

Composting Food Waste

The Department diverted more than 1.25 million pounds of food waste into compost projects in FY09. (This number included the biosolids composted at OCC.)

Five prisons currently operate composting projects. An additional two prisons divert to a local compost facility. Projects are currently underway to facilitate food waste diversion at three additional facilities.

Diverting food waste from landfills is an effort with significant return on investment for the Department. Food waste is heavy and significantly affects waste-management expenses; it typically represents 40 to

60 percent of a facility's waste stream. When facilities convert this waste into compost, WDOC reduces impacts to regional landfills; reduces transportation-related needs for waste; and creates a valuable product to produce food without the addition of synthetic fertilizers.

Composting also reduces related water consumption due to the improved soil quality resulting from the application of compost to these growing areas. The Department's composting operations include static aerated pile, in-vessel, and liquefied injection methods, and the composting of biosolids.



Offenders gardening at SCCC, Photo by B. Drummond

Paper Use

The Department's paper purchase policies strive to comply with the Governor's Executive Order 05-01 requiring that state agencies take all reasonable actions to reduce the lifecycle impacts of paper products.

Department goals also require:

- Reduce the use of office paper by 30 percent from the baseline year
- Increase the percentage of environmentally preferable paper (EPP) purchased

The prison making the most progress is WSP, by reducing paper use by 39 percent from FY04. Within the last fiscal year alone, WSP achieved a 13 percent decrease.

Figure 19— Illustrates Paper Use Reduction Progress on a per Offender, per Day Basis

Office Paper Reduction Performance per Offender /Day FY04 Baseline

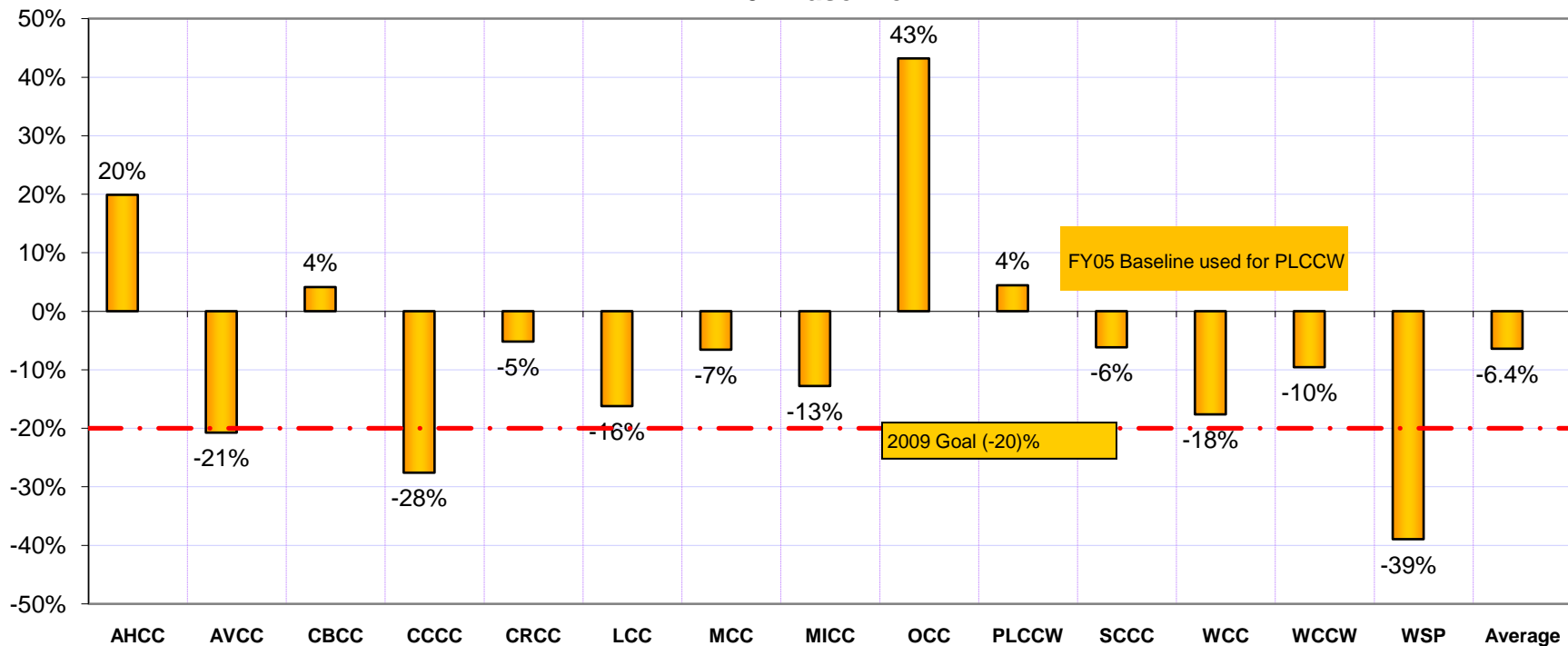
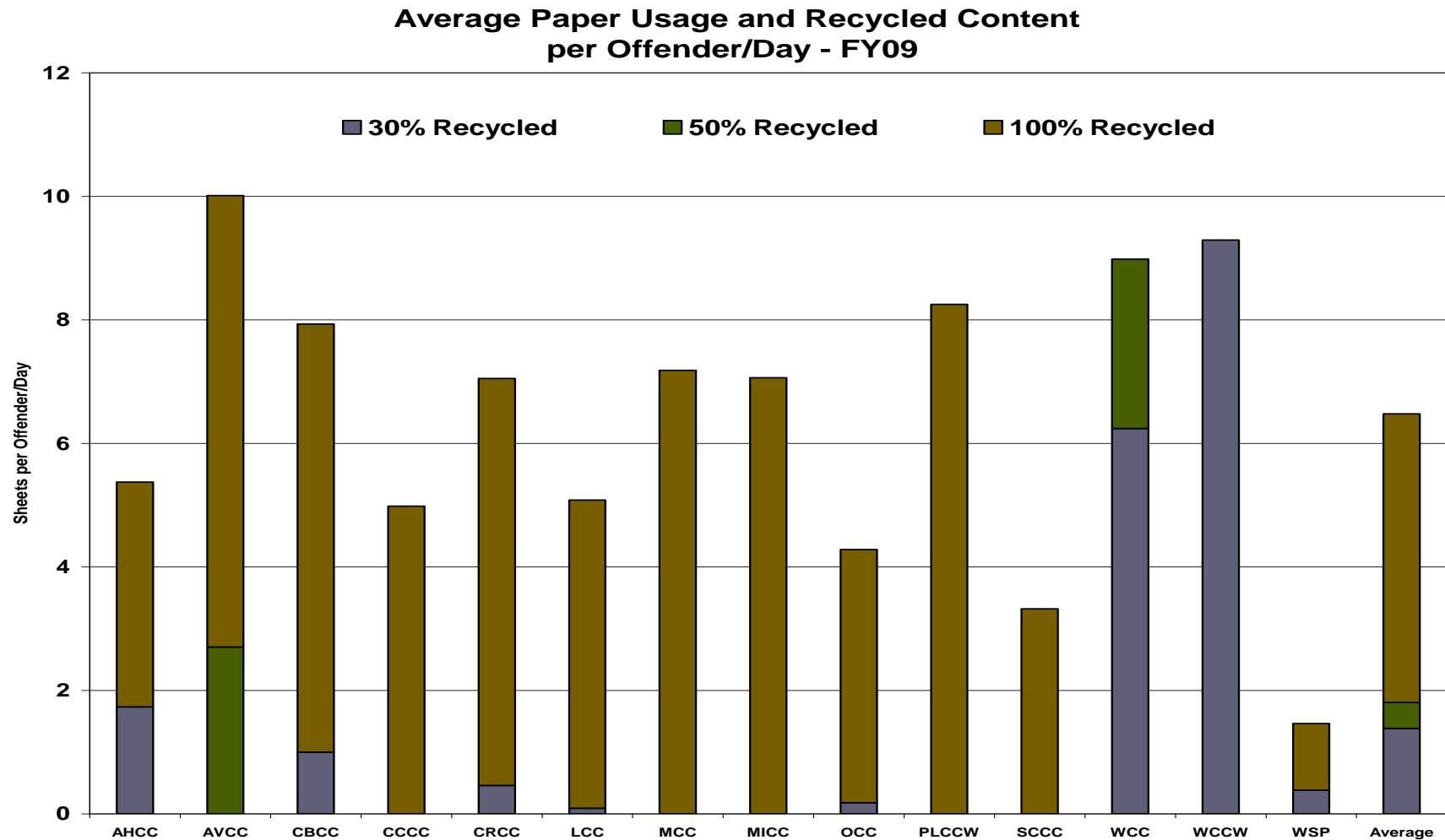


Figure 20 – Illustrates the Facilities' Paper Use in Relation to Population Served and Progress in Increasing the Recycled Content of Paper Purchased



Sustainability Goal 6 – Increase Department’s Commitment to and Employee Awareness of Sustainability

Employees and offenders play a huge role in the success of sustainability efforts and programs. It is vital that they understand these programs because their participation can ensure the Department achieves its sustainability goals.

- Facilities are encouraged to form sustainability committees that involve both a wide range of facility staff as well as input from and the participation of offenders in the design and implementation of sustainability programs.
- Employees and their connection to their community are crucial to the development of creative, inexpensive projects.
- The Department has posted many of the news articles on the internal Website so staff members can see how well the public responds to sustainability efforts.
- The Department invites employees as well as offenders to sustainability seminars and lectures at prisons and headquarters.

The WDOC outreach efforts heightens employee awareness and commitment to Sustainability

- The Department has hosted several press events at prisons, which have resulted in positive reporting in statewide, national and international press coverage in newspapers, television and magazines.
- During these press events, WDOC includes other agencies and organizations – The Evergreen State College, The Nature Conservancy, the Department of Fish and Wildlife, Fort Lewis and others – to highlight partnerships and to reach different audiences.
- Through news media coverage, WDOC has shown the public how sustainability reduces operational costs, energy consumption, and teaches offenders job skills that prepare them for the “green-collar” job market.
- The Department nurtures relationships and dialogue among prison administrators and with administrators outside the state and country to promote the exchange information about sustainability, conservation and biodiversity efforts within prisons and in support of the wider community.
- The Department actively seeks community partnerships, which are mutually beneficial to sustainability efforts and those of the wider community.

Cost Data

In addition to gathering data on utility use and waste generation, WDOC also assembled data on utility costs. Not all accounting categories correspond directly with tracking categories; nonetheless, the cost data provides useful supplemental information to sustainability tracking data.

Table 13 compares costs per utility from FY04 to FY09. These costs are for all prisons combined. The utilities include refuse, water, wastewater, gasoline/fuels and

energy. It is important to note the components in these categories. Refuse includes recycling. Energy includes heating oil, natural gas, propane and other energy sources. Gasoline includes diesel and biodiesel.

The Department's most costly utilities are natural gas, propane, heating oil, and electricity – followed by wastewater.

The columns in the table below show the relationship between utility cost and utility consumption as it has changed over this five-year period.

Table 13 – Presents Total Costs by Utility FY04 to FY09

Utility	FY04	FY09	Percent Cost Change	Percent Use Change
Energy	\$13,640,045	\$19,511,752	43%	6.1%
Fuel	\$1,158,652	\$1,390,573	20%	-24%
Water	\$1,306,607	\$1,855,056	42%	1.2%
Wastewater	\$3,731,622	\$4,526,212	21%	-3.5%
Refuse	\$845,170	\$992,091	17%	-23%
Total	\$21,663,655	\$27,744,714	28%	Not Applicable
Average Population	15,466	15,795	2% population change	

Best Practices

The tie between sustainability and the Department's primary mission of security is becoming more defined and tangible. Sustainability is good for business and for security. The Department recognizes the value sustainability initiatives and refined sustainable operations have to WDOC as well as host communities.

The Department has developed cost-effective, environmentally sound practices to operate prisons and engage offenders with direct responsibility for those activities where security is in place. Through the sustainability efforts, WDOC inspires, encourages, and trains offenders and staff in sustainable practices and green collar job opportunities.

In addition to recycling, composting, conservation, and organic gardening, WDOC restores bicycles for return to the community and rehabilitates troubled dogs. As the success of these low-cost therapeutic programs becomes evident, WDOC has expanded them at facilities across the state.

The Department now has one program that raises abandoned kittens for therapeutic and social benefits and three dog programs. The Dog Programs range from rehabilitating un-socialized dogs to be prime adoption candidates to more rigorous training that results in service dogs being placed in service to war veterans, the disabled, and as "court house" pets to provide comfort and support to victims of crime as they testify.



Offender and dog "Morgan" in the dog program at SCCC.

The largest percent of the incarcerated men and women will eventually return to their communities. Because of this, it is in society's best interest to cultivate civil behavior and the sense of responsibility. There is substantial qualitative evidence that involvement in sustainability efforts and programs at the facilities is beneficial.

Qualitative evidence indicates an increase in positive offender behavior improved dispositions and resulted in improved communication with their family members as well as with the community both inside and outside of the prison walls. As these encouraging reports continue to roll in, the Department is taking steps to quantify these efforts through the partnership with the Evergreen State College to share with other corrections departments.

Success factors

Sustainability efforts are dependent upon data collection, funding, staffing, communication, and integrating sustainability into the Department's culture.

Data Collection

Accurate and high-quality data acquisition is essential to the progress and success of sustainable operations and initiatives. Data analysis provides a means for evaluation of collected observations and information. The motivation for data collection is to establish a baseline and formative information to direct action and inform decisions.

Data collection has been a challenge; WDOC continues to improve collection mechanisms. The Department continues to evolve toward making data collection an integrated function and management tool.

The recent emphasis on analyzing and reflecting upon collected data has reinforced its value as not just a reporting requirement but as a valuable management tool allowing facility staff to make better informed decisions and target their efforts more successfully.

Funding

Funding remains challenging; however, sustainability operations and projects continue to move forward as the expense can be justified in either delayed payback or

other social benefit. Funding for sustainability projects can be found in operational budgets, legislative funding, and from funds secured by available alternative funding.



Offenders gardening at Stafford Creek Corrections Center Photo by B. Drummond

Staff

The Department is fortunate to have staff skilled in and dedicated to sustainability efforts. Dedicated employees are the key element to WDOC's success to date; they have pioneered programs such as composting, organic gardening, water catchment, recycling and reuse.



Offenders attending Sustainability lecture. Photo by B. Drummond

Integrating Sustainability into WDOC

Sustainability is part of the Department's Strategic Plan and WDOC supports sustainability through the provision of a Sustainability Coordinator and sustainability-focused performance measures.

While WDOC continues to work towards reducing resource use in operations, the Department is also working to improve social conditions. Both efforts make long-term economic sense and they both align with the true definition of sustainability.

Appendices

Appendix A – Summarizes WDOC short range and long-range goals, along with progress so far; for additional information on plan goals, please see the Department’s Sustainability Plan.

Sustainability Goal 1 – Reduce Dependence on Non-Renewable Energy and Fuel Sources

Year 6 Progress	Year 5 Milestones	Year 10 Milestones	Year 25 Milestones
The WDOC has achieved a 7.8 percent reduction in energy used per square foot from the baseline year. The WDOC has achieved a 24 percent reduction in consumption of vehicle fleet fuel alone. Biodiesel represented 2.4 percent of the total vehicle diesel fuel used.	10 percent reduction in energy use from 2003 baseline as per EO 05-01 Reduce petroleum use by 20 percent as per EO 05-01 Replace diesel with biodiesel as per EO 05-01	20 percent of our total energy need is provided from renewable sources Previous energy and fuel consumption reduction level is maintained	Previous energy and fuel-consumption reduction level maintained.
Photovoltaic panels at CRCC cover an area of 16,929 sq ft and will produce 77.76 kW peak electrical out-put.	Alternative (renewable) energy and fuel sources continue to be identified		

Sustainability Goal 2 – Reduce Potable Water Use

Year 6 Progress	Year 5 Milestones	Year 10 Milestones	Year 25 Milestones
The WDOC increased total potable water used by 1.2 percent from the 2004 baseline year.	Total non-reclaimed water use reduced by 20 percent.	Total non-reclaimed water use reduced by 40 percent.	Total non-reclaimed water use reduced by 60 percent.

Sustainability Goal 3 – Reduce Use of Toxic Materials

Year 6 Progress	Year 5 Milestones	Year 10 Milestones	Year 25 Milestones
Achieved at all facilities	100 percent of all kitchen, janitorial floor care and laundry products are environmentally friendly.	Purchase of construction materials and consumable products containing PBTs and other toxins are 90 percent eliminated.	100 percent of products purchased and produced are sustainable.
Six out of the eight major facilities have reduced hazardous waste generation by 50 percent or do not produce.	Major facilities reduce generation of hazardous waste by 50 percent.	All chemical pesticides and herbicides are replaced with safer alternatives	100 percent of hazardous waste generation is eliminated.
Eliminated as far as practicable at most facilities	One facility has eliminated the use of all chemical pesticides and herbicides.	40 percent of food served in facilities is sustainably grown	
Not tracked, but are eliminating products containing mercury, and purchasing low-Volatile Organic Compounds (VOC) products in construction projects.	Construction and consumable products contracts reducing or prohibiting materials containing Persistent Bio-accumulative Toxins (PBT) and other toxins are implemented where possible.	90 percent of CI materials are sustainable, non-toxic or environment friendly	
Percentage not tracked. Seven prisons grow some organic vegetables. Produce is served in the facility dining room to supplement menus or donated to local food banks.	20 percent of food served in DOC facilities is sustainably grown.		100 percent of food served in facilities is sustainably grown

Year 6 Progress	Year 5 Milestones	Year 10 Milestones	Year 25 Milestones
Correctional Industries has joined with the GreenGuard Environmental Institute's certification program receiving "GreenGuard Indoor Air Quality" and "Children & Schools" certification on many of its furniture products. The number of certified products will increase as product testing is completed.	50 percent of Correctional Industries materials are sustainable, non-toxic, or environmentally friendly.		100 percent of Correctional Industries materials are sustainable, non-toxic, or environmentally friendly.
14 of WDOC's 15 facilities are small quantity generators, managing less than 220 lbs of hazardous waste per month.	Major facilities reduce generation of hazardous waste to levels below 220 lbs per month.		100 percent of hazardous waste generation is eliminated
The WDOC is designing and building all applicable new construction to meet LEED® Silver standards or better.	50 percent of renovations, remodels, and non-building construction incorporate green building elements at a value of 10 percent overall construction costs.		All new building construction and leased facilities meet or exceed LEED® Platinum standard.

Sustainability Goal 4 – Increase the Sustainability of Facilities

Year 6 Progress	Year 5 Milestones	Year 10 Milestones	Year 25 Milestones
All large remodels or renovations where the maximum available construction costs (MACC) exceed 50 percent of building value are to be LEED® Silver.	50 percent of renovations, remodels, and non-building construction incorporate green building elements at a value of 10 percent of overall construction costs.	All new building construction meets LEED® Gold standard or equivalent	100 percent of renovations, remodels and non-building construction incorporate green building elements at a value of 20 percent of overall construction costs.
	10 percent of all new leases are in buildings that meet LEED® Silver standard or equivalent.	30 percent of all new leases are in buildings that meet LEED® Silver standard or equivalent	50 percent of DOC buildings are built to LEED® standards or have incorporated green building elements through renovation and remodeling.
		75 percent of renovations, remodels and non-building construction incorporate green building elements at a value of 20 percent of overall construction costs	All new leases are in buildings the meet LEED® Silver standard or equivalent.

Sustainability Goal 5 – Reduce Waste

Year 6 Progress	Year 5 Milestones	Year 10 Milestones	Year 25 Milestones
Reduced total waste generated by 8.6 percent. Reduced waste disposed of by 23 percent. Increased waste diverted to recycle or composting by 53 percent.	Facilities reduce solid waste and food waste by 35 percent.	Facilities reduce solid waste and food waste by 50 percent	Facilities reduce solid waste by 75 percent and food waste by 100 percent.
All but two facilities are using 100% recycled paper.	All paper products purchased, including janitorial paper products are 100 percent recycled content and chlorine-free.	Paper use is reduced by 40 percent.	Paper use is reduced by 60 percent.
Aggregate paper use has decreased by 6 percent.	Paper use is reduced 30 percent as per EO 05-01		

Sustainability Goal 6 – Increase Department Commitment to and Employee Awareness of Sustainability

Year 6 Progress	Year 5 Milestones	Year 10 Milestones	Year 25 Milestones
The WDOC posts articles about sustainability projects and commitments, both internally and externally generated, on the internal Web site.	50 percent of Department respondents answer education survey correctly.	75 percent of Department respondents answer educational survey correctly	75 percent of Department respondents answer education survey correctly.
The WDOC invites staff and offenders to sustainability seminars and lectures at prisons.	Presentations updated to reflect evolution of sustainability efforts	Presentations updated to reflect evolution of sustainability efforts	Presentations updated to reflect evolution of sustainability efforts.

Appendix B (Three Graphs)

Figure 1 – Illustrates the Energy Consumption Activity for the Higher Custody Prisons Normalized on a per Offender Basis

Energy per Offender/Day - Higher Custody Prisons

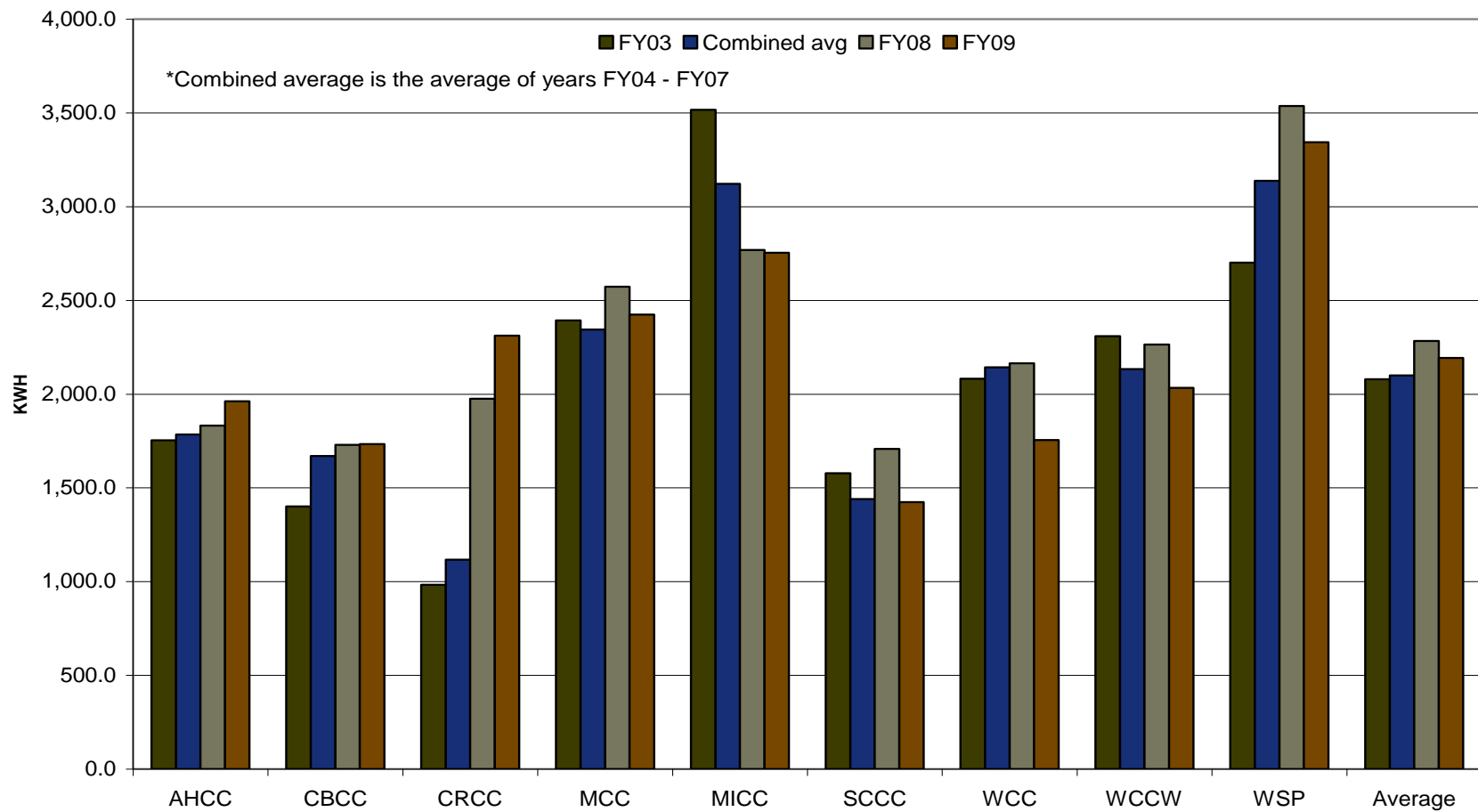


Figure 2 – Illustrates the Energy Consumption Activity at the Minimum Custody Facilities Normalized on a per Offender Basis

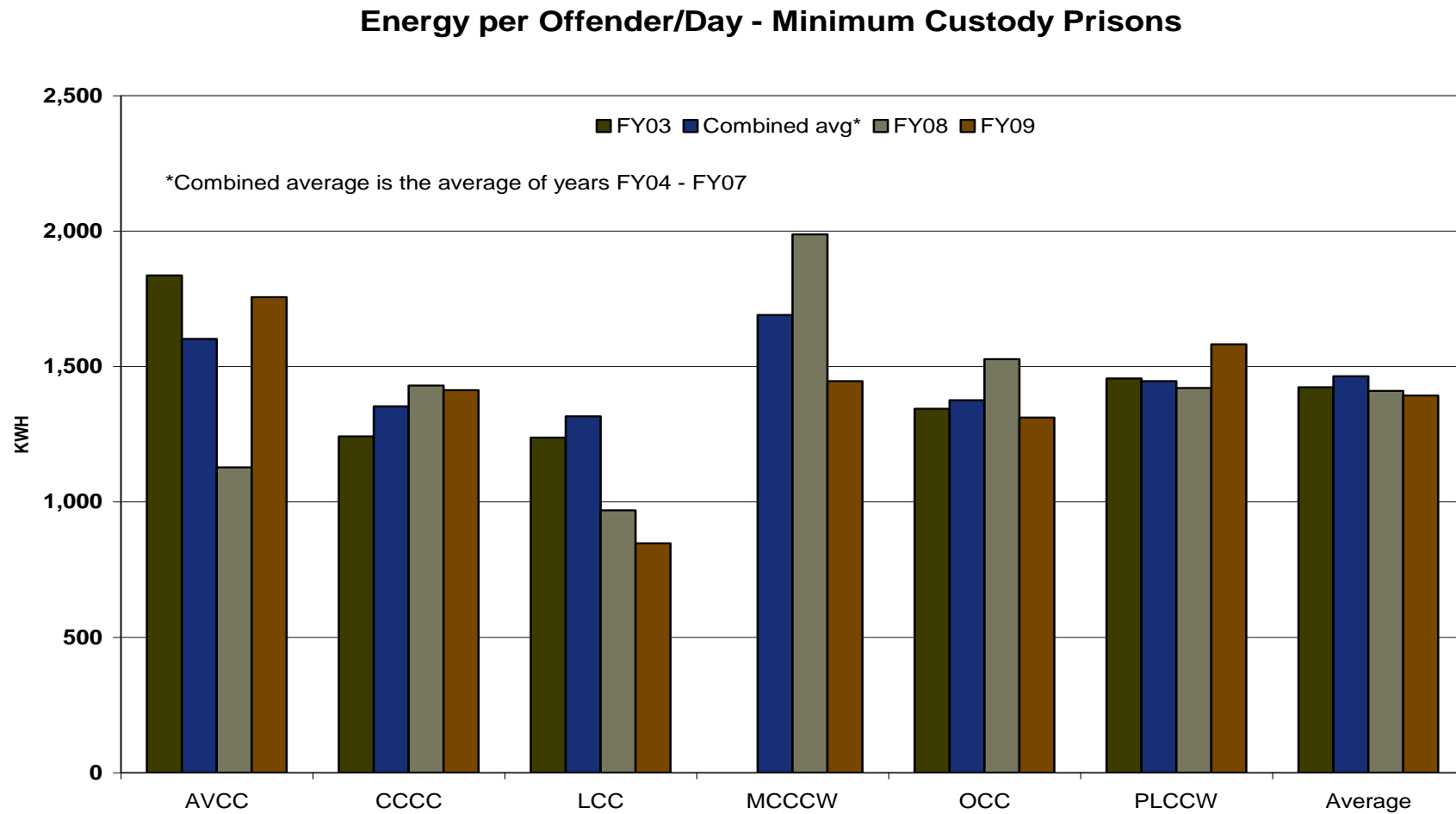
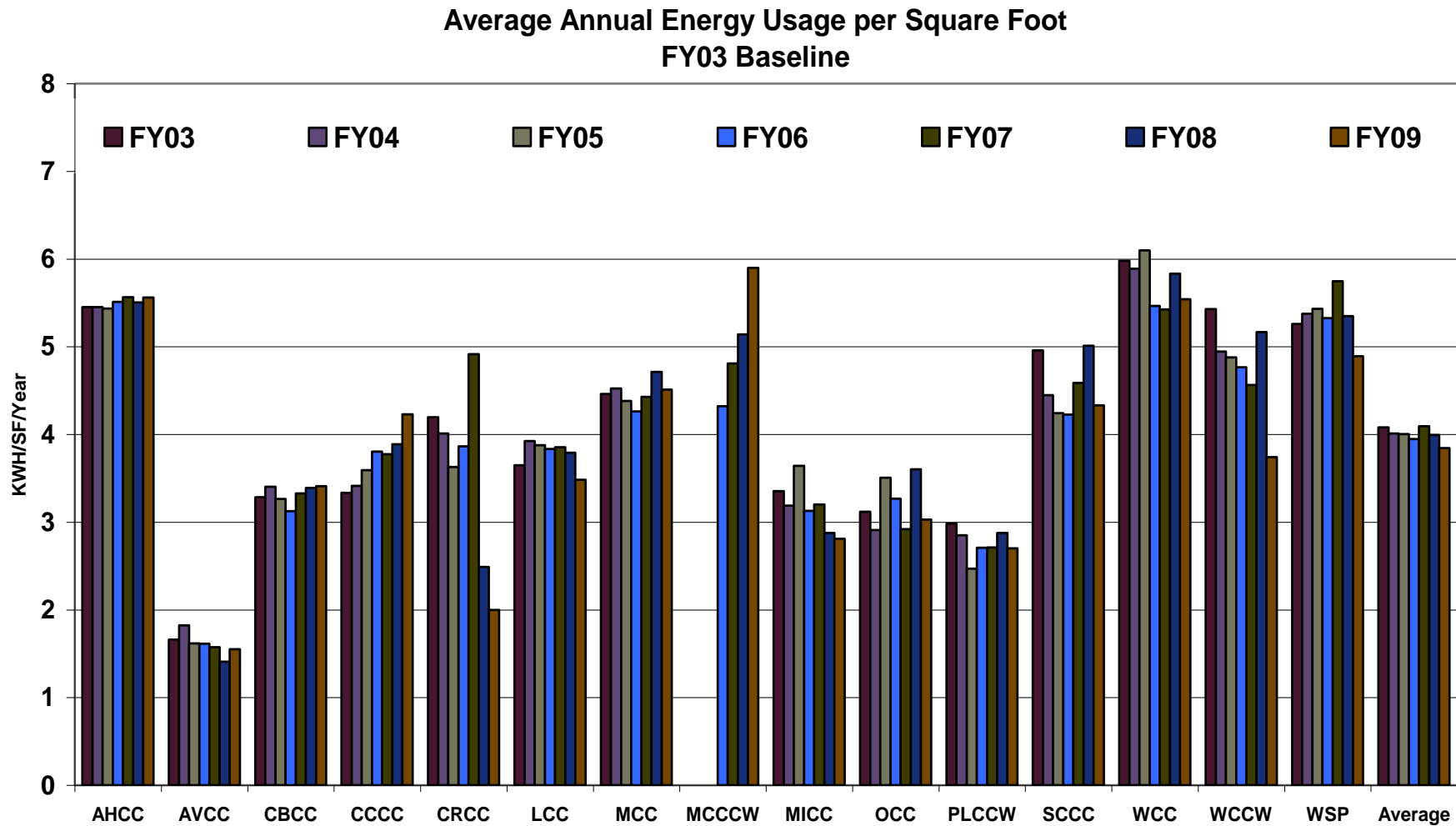
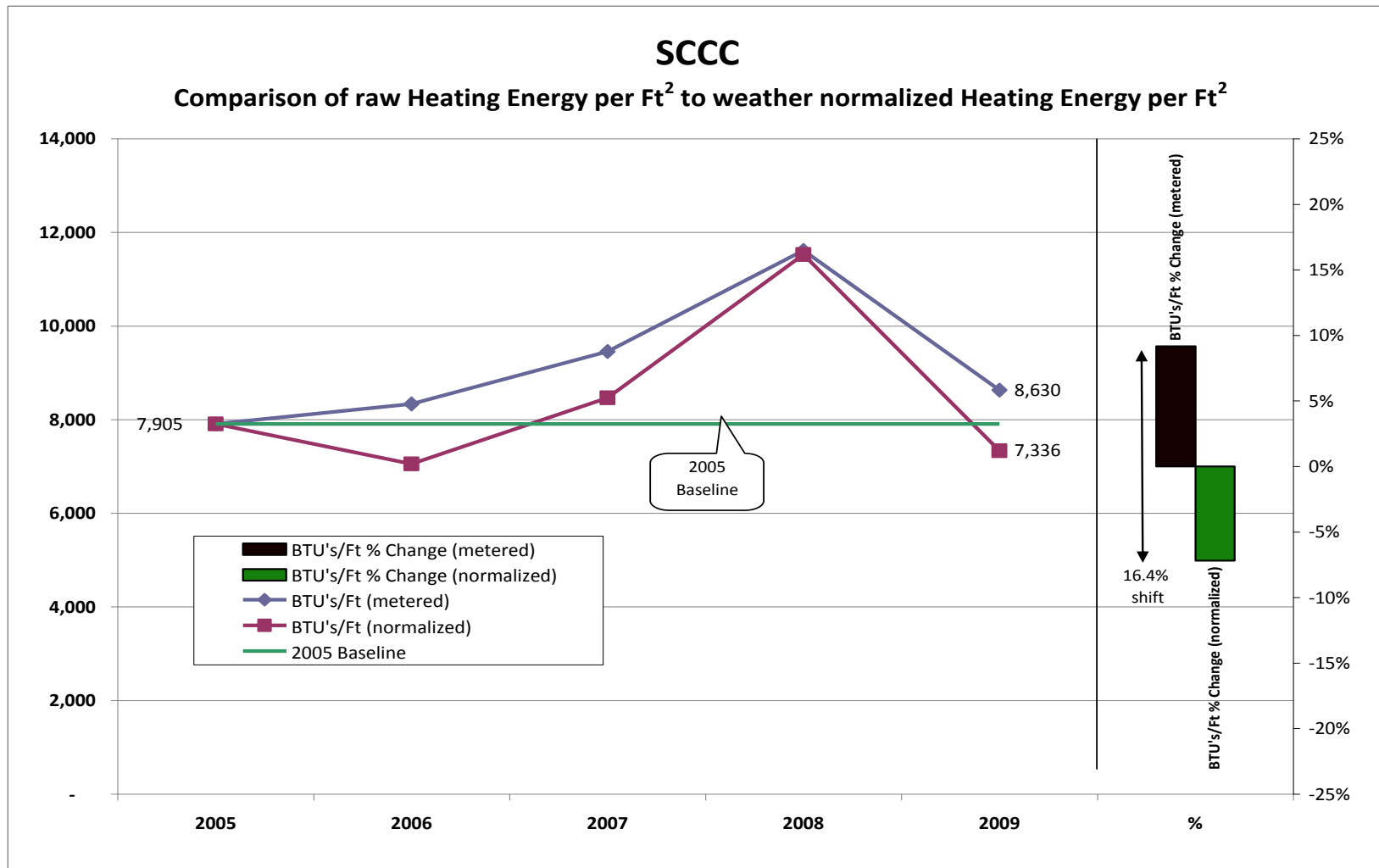


Figure 3 – Illustrates Average Energy Use



Appendix C – (SCCC and WCC Data Normalized for Weather Influences)

Stafford Creek Corrections Center Energy Data Normalized for Weather Influences



Washington Corrections Center Data Normalized for Weather Influences

